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ABSTRACT

Report 7 from the National Assessment of Educational Progress, a project of the Education Commission of the States, is based on results from a 1969-70 assessment of scientific knowledge and extends these results to cover the performance of Blacks, of respondents with differing levels of parental education, and from differing types of communities. Blacks performed between 12 percent and 16 percent below the national average at the four age levels: 9, 13, 17 and young adults (26-35). When results were partially adjusted for disproportionate representation of Blacks on the variables of size of community, level of parental education, sex and region, the reduced difference between Black and national performance was between 7 percent and 10 percent at the four age levels. Blacks performed best on those science exercises largely dependent upon daily experience and common knowledge, and worst on those which involved a detached research attitude toward the objects and phenomena of science. (Author/CP)

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SCIENCE

GROUP RESULTS B
1971

REPORT 7
1969-70 Assessment
Color, Size and Type
of Community, Parental
Education; Balanced
Results by Region and Sex

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A Project of the Education Commission of the States

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Assessment Reports

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NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

A Project of the Education Commission of the States

NATIONAL ASSESSMENT REPORT 7

1969-1970 SCIENCE:

GROUP AND BALANCED GROUP RESULTS FOR

COLOR
PARENTAL EDUCATION
SIZE AND TYPE OF COMMUNITY

AND

BALANCED GROUP RESULTS FOR

REGION OF THE COUNTRY
SEX

December, 1971

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SUMMARY

The main purpose of National Assessment is to measure change in what children and young adults know and can do. Science was assessed for a national sample of respondents in 1969-70. Science will be assessed again in 1972-73. After that, reports of science results will emphasize what seems to have been learned better, and what less well. In the meantime, our reports are confined to the results of the only administration of science exercises conducted so far.

The first step towards providing information about knowledge of Science on the part of American children and young adults was National Assessment Report 1, which gave national percentages of success for Science exercises. In Report 4, results were examined to detect differences in percentages correct between the two sexes, among four geographical regions and among four sizes of community.

The present report extends the results to cover the performance of Blacks, and of respondents with differing levels of parental education and from differing types of community. For each subgroup on each of these characteristics, we describe performance differences as they are. In addition, for each subgroup, including those examined in Report 4, we discuss differences as we estimate they would be if the effects of other characteristics were represented proportionately in each subgroup.

The major results are:

Performance of Blacks

Blacks performed between 12% and 16% below the national average at the four age levels: 9, 13, 17 and young Adults (26-35).

When results were partially adjusted ("balanced") for disproportionate representation of Blacks on the variables of size of community, level of parental education, sex and region, the reduced difference between Black and national performance was between -7% and -10% at the four age levels.

Blacks performed best on those science exercises largely dependent upon daily experience and common knowledge, and worst on those which involved a detached research attitude toward the objects and phenomena of Science.

Levels of Parental Education

At the four ages performance of respondents reporting neither parent educated beyond eighth grade was from -7% to -12% compared to the national average; of respondents with at least one parent who attended high school, from -2% to -8% compared to the national average; with at least one parent who graduated from high school, from 1% below to 3% above national average; with at least one parent educated beyond high schook, from 5% to 9% above national average.

Balancing for disproportionate representation of other variables somewhat reduces the effect of the parental education classification, although there is still about an 11% performance difference between the group of respondents who reported a parent educated beyond high school and the group of respondents who reported that neither parent attended high school.

Respondents with neither parent completing high school had exceptional difficulty on exercises requiring special vocabulary knowledge or reasoning from graphs and pictures.

Types of Community

Respondents living in Extreme Affluent Suburbs did 5% to 11% better than the country as a whole, followed by four types of communities with performance within 1, 2, or 3% of national average--Suburban Fringe, Medium Cities, Small Cities and Inner City Fringe. Next in order were Extreme Rural respondents, from 4 % to 6 % below the nation. and finally the Extreme Inner City with from 7% to 15% deficit.

The balancing adjustment reduces the type of community effects to about half of their unadjusted size.

Region

The most striking difference between unadjusted and balanced regional effects is the reduction of the Southeast deficit of about 5 % to about 2.5 %. Balanced results for the other three regions cluster tightly about 1% above national average.

Objectives

As in National Assessment Report 4, there is a slight tendency for exercises assigned to Objective 2 (Possess the abilities and skills needed to engage in the processess of science) to display stronger differences between groups than exercises assigned to Objective 1 (Know the fundamental facts and principles of Science). Among the variables newly analyzed in this report, this tendency is most clear for color results.

Limitations

In the previous report of group results on Science (National Assessment Report 4) the following cautionary statement was made:

> There is a kind of interpretation that should never be made on the basis of the sort of figures given in this report. The fact that figures reflect Southeast performance or Big City performance does not mean that the performances thus reflected have arisen precisely from living in the Southeast or in a Big City, or from the attitudes, techniques, facilities and staffs of the school system involved. In particular, just what happens in a region involves other things than that region's schools. Larger fractions of the children in some regions belong to a particular size-of-community group. Thus effects due only to size of community can appear to be regional differences. Larger or smaller fractions of the parents in some regions have particular amounts of education. Thus effects due only to parental education can appear to be regional differences. And so on. Migration from one region or size of community to another can further complicate the picture. There are such difficulties, some of which we know how to adjust for, and some of which we do not.

Great caution should also be exercised in interpreting the results for the group variables from the present report. One should refrain from attempts to assign causation to any particular set of educational factors, or any variables from the heredity-environment complex, based on results reported here.

We have attempted to adjust group results for disproportionate representation of other characteristics within each group. This "balancing" procedure is helpful, but it cannot adjust for variables which were not measured or not used in the analysis. Nor can it overcome either inaccuracy or coarseness in the classification of respondents or the fact that the variables that were measured may supply only an indirect indication of what we really would like to measure.

Two other special limitations should be noted, as they apparently contribute to some irregularity in the patterns of results for age 17. The out-of-school sample included at this age suffers from the problem that many teen-agers are difficult to locate at home. Among the subgroup of 17s who cannot readily be found are probably a large number of individuals who have been quite unsuccessful in school and are antagonistic to scholastic tasks. Thus the 17-year-olds available in the sample might be expected to perform well compared to unavailable 17-year-olds. The problem is compounded by the possibility that certain subgroups might be unavailable in greater proportion than other subgroups. This may be the case with 17-year-old Blacks, for example, since the number of Blacks in the 17-year-old sample is only about 3/4 the number at ages 9 and 13. Thus, the 17-year-old Black sample might be selectively different from the Black samples at other ages. In fact, the results to be examined in Chapter 2 show that Black 17s perform relatively better than Blacks at other ages.

The second irregularity at age 17 is that the distribution of exercise difficulties happens to have come out more heavily weighted toward very difficult exercises. (See page 10 of Report 1). To the extent that very difficult exercises differentiate subgroups less sharply than other exercises, the differences among subgroups will be reduced at age 17.

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Chapter 1

WHAT IS BALANCING?

This is the first of the NAEP reports to consider effects associated simultaneously with several classifications of respondents. Unfortunately, in a direct comparison between group effects, one characteristic can masquerade as effects of another. In addition to direct comparisons, we here use a method of analysis designed to reduce such masquerading.

The unadjusted results as reported here and in Report 4 clearly and accurately estimate the differences in achievement between specific groups of children. For example, over all the science exercises, the median percentage difference between 13-year-olds in the Extreme Affluent Suburbs and in the Extreme Inner City is 20% (from Exhibit 6-1). Except for sampling error, this accurately reflects how these two groups differ.*

However, children in the Extreme Affluent Suburb tend, more than children in the Extreme Inner City, to have better educated parents. Because of this lack of balance, part of the difference between these two groups may be considered as growing out of the difference in parental education. Part, also, may be attributable to other factors on which the two groups differ. Some of these factors have been determined for our respondents their sex, color and the region of residence. Many other possibly relevant factors have not been determined, such as the economic level of the children's parents and the cultural environment in the home.

It is natural to ask, "What would the difference between these extreme types of community have been if the distribution of Parental Education, sex, color and region had been the same for both types of community referred to above?" Were it possible to rearrange the world to equate these distributions for each type of community, the effects upon our nation and its schools would be profound. Such rearrangement is not possible. It is usually appropriate to think of the balanced results presented in this report as reflecting the differences we would see in the absence of masquerading by the other four factors. We can be reasonably sure the balanced results do a much better job than the unadjusted results of reflecting such differences.

*The reader is referred to Appendix A for the description of the methods used for developing such comparisons.

While balancing helps to correct for disproportionate representation across categories, it cannot adjust for variables which were not measured or not used in the analysis. Nor can it overcome either inaccuracy or coarseness in the classification of respondents or the fact that the variables that were measured may supply only an indirect indication of what we really would like to measure.

Still another question concerns the combination of factors. The performance of a given subgroup may be found to differ, depending upon subgroupings on other variables. Thus, the effect associated with Extreme Affluent Suburbs may be different in the Northeast and the Southeast. Or the effect associated with sex may be somewhat different for Blacks and Non-Blacks. These *interactive* differences are not considered in this report and balancing does not adjust for them.

Appendix B presents more details about the nature and computational procedures of balancing.

Chapter 2

COMPARATIVE PERFORMANCE OF BLACKS

In view of the widespread national concern with the educational disadvantage of Blacks and other minority groups, National Assessment was designed so as to begin an evaluation of the details of such possible disadvantage. The color of each respondent was noted by the exercise administrator on the Assessment package as answers were turned in. During year 01, color was noted as "Black" or "Non-Black" by the administrator. The Non-Black category in addition to many whites, included Orientals, Mexican-Americans, Indians and some Puerto Ricans. The present chapters give results for Blacks in this first cycle of Science assessment. The standard measure of relative performance on each exercise is the difference between the percentage of correct answers given by Blacks and the national percentage of correct answers. These measures give benchmarks for evaluating potential progress in later assessment cycles.

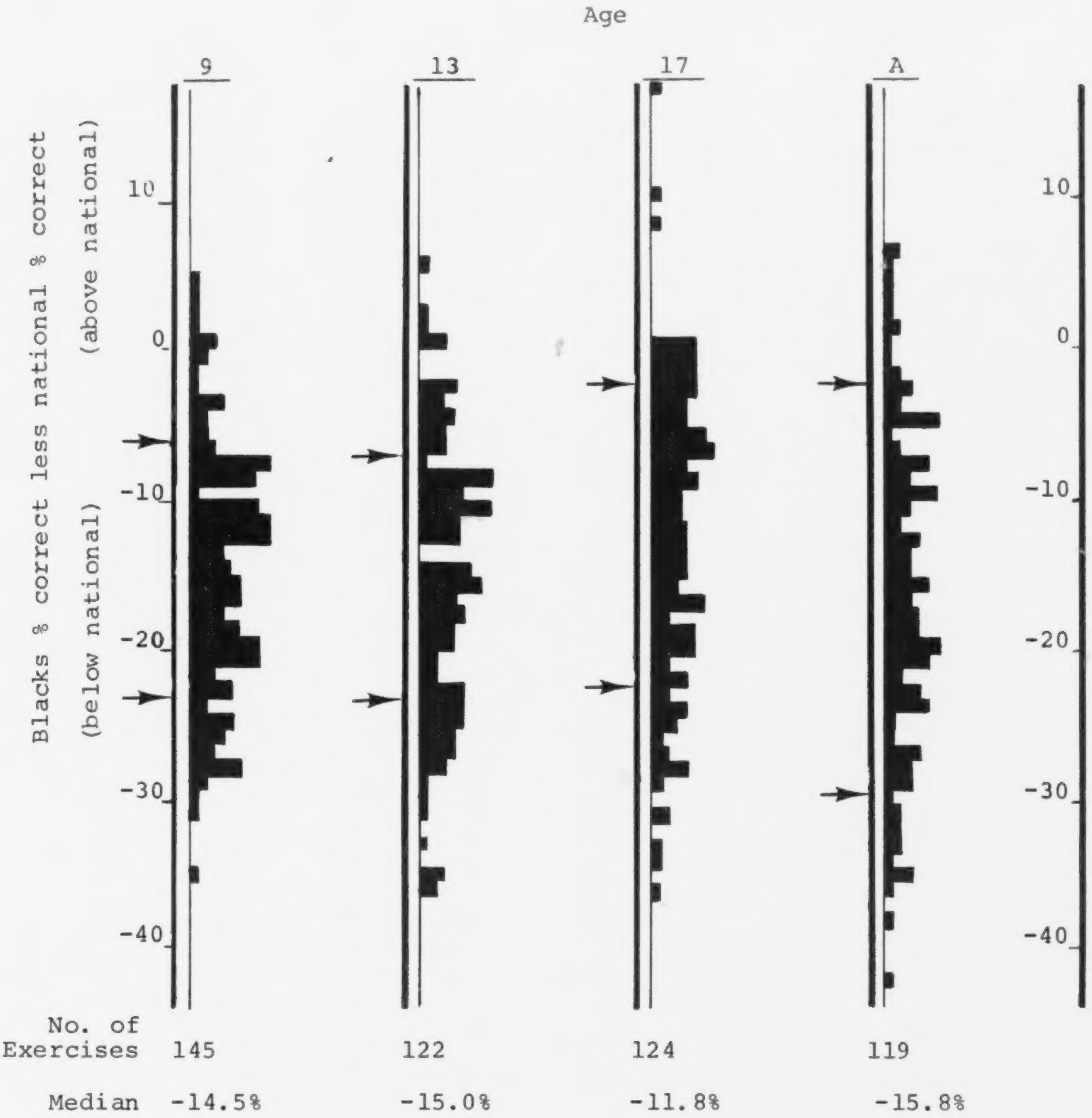
The performance of the Black respondents in National Assessment can reflect individual, school or environmental factors, and there is no sure way to disentangle the complex web that represents the Black educational condition in America today. In the next chapter, a preliminary attempt is made to adjust Black results to take account of the general advantage for whites of disproportionate representation in Affluent Suburbs, higher numbers of highly educated parents and so on.

The effects for Blacks and Non-Blacks differ widely from exercise to exercise, as noted in National Assessment Report 1 (pp. 151, 155). In this and the next chapter we discuss individual exercises and types of exercises on which Black respondents perform atypically better or worse than their general level.

Exhibit 2-1 shows the distribution of relative performances by Blacks over all exercises at the four age levels. The median results for Blacks are consistently below national results, by 14.5%, 15.0%, 11.8% and 15.8% at ages 9, 13, 17 and young Adults (26-35). For individual exercises, the spread around these medians is considerable, however, as the exhibit shows. The smaller median deficit at age 17 than at the other three ages is difficult to interpret. (See Summary, p. iii.) In any case, it seems safe to say that there is no systematic decline in

Exhibit 2-1

Distributions of relative performances of Blacks for all science exercises at four ages



relative Black performance with increasing age. (This conclusion also applies if attention is focused solely on exercises administered at more than one age level.)

Median relative performances by Blacks on exercises for each science objective are shown in Exhibit 2-2. Objectives 1 and 2 covered different forms of science achievement with sizeable numbers of exercises. Objectives 3 and 4 touched upon attitudes and orientations toward Science and scientists, employing rather few exercises. Comparing Objective 1 (Know the fundamental facts of Science) with Objective 2 (Possess the abilities and skills to engage in the processes of Science) we note that at all four ages the Black disadvantage is consistently less for Objective 1,* by amounts of 2.2%, 3.7%, 8.7% and 3.0%. That is, Black respondents at all assessed age levels tend to perform relatively better on science fact exercises than on science process exercises.

At ages 13 and 17, there is a tendency for the median Black deficit to be rather small (4 to 6%) for the exercises of Objective 4 (Show appreciation of scientists and Science). At age 17, the deficit is also small (4%) on Objective 3 (Understand the investigative nature of Science). There are relatively few exercises under these two objectives, but the hint is nevertheless clear that whatever their achievement levels, Black teen-agers do not necessarily express a lack of appreciation for Science.

Median results for physical science vs. biological science exercises are presented in Exhibit 2-3. There are no systematic differences in Black performance on these two types of science exercises.

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*Region, sex and size-of-community groups also are less strongly differentiated on Objective 1 than Objective 2 exercises. See Report 4, pp. 10, 5, 21.

Exhibit 2-2

Median relative performance by Blacks for exercises under each objective

Science Objective	9	13	17	Adult
1. Facts and Principles	-15.5% (96)*	-15.0% (75)	-10.[illegible]% (89)	-14.8% (85)
2. Abilities and Skills	-17.7% (29)	-18.7% (31)	-19.6% (24)	-17.8% (24)
3. Understand Investigative Nature	-12.1% (11)	-18.8% (8)	-4.2% (6)	-23.7% (5)
4. Attitudes and Appreciations	-10.7% (9)	-4.3% (8)	-6.0% (5)	-10.6% (5)

*Numbers of exercises in parentheses

Exhibit 2-3

Median relative performance by Blacks for physical and biological science exercises

	9	13	17	Adult
Physical science	-16.0% (78)*	-15.0% (67)	-12.7% (79)	-16.6% (63)
Biological science	-14.2% (48)	-15.4% (39)	-10.8% (32)	-16.7% (44)

*Numbers of exercises in parentheses

Note: Minus percent figures represent median percentages below national averages.

Chapter 3

COMPARATIVE PERFORMANCE OF BLACKS, BALANCED, FOR OTHER MEASURED FACTORS

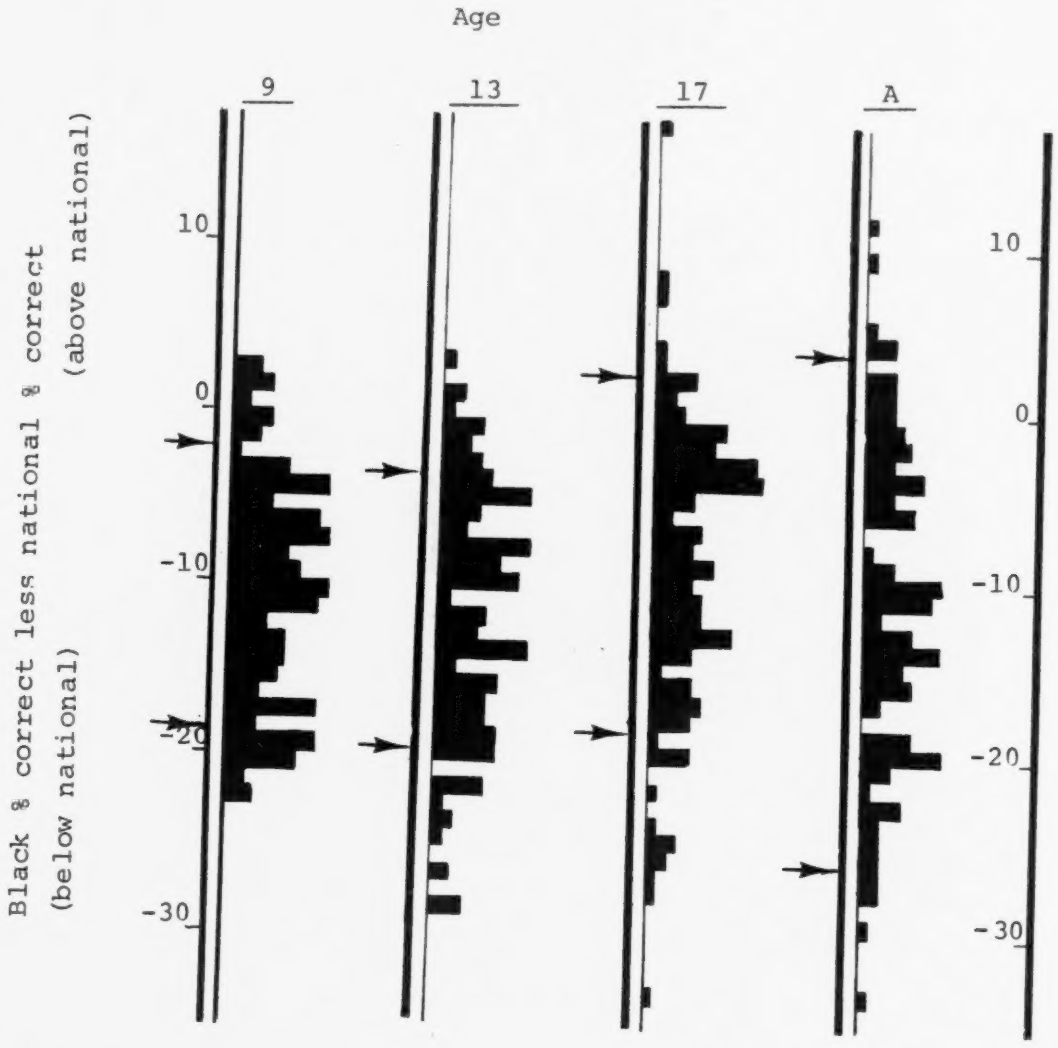
Blacks are subject to many adverse conditions, and it is extremely difficult to identify the factors most responsible for the comparative disadvantage in Science performance reported in the previous chapter. We can attempt to adjust our data for some of these factors through the application of "balancing" as explained in Chapter 1, and Appendix B. Many factors are not available in National Assessment data and we cannot, of course, adjust for these. Thus, the adjustments may well be too small, and therefore the balanced figures cannot be expected to represent the full potential in Science of Black children and young Adults under appropriate educational stimulation at home and in school.

Blacks are underrepresented in the most educationally advantaged type of community--the affluent suburbs--and are overrepresented in the educationally disadvantaged inner city. (Results for different types of communities, showing the advantages and disadvantages, are presented in Chapters 6 and 7.) One might ask how much of the Black disadvantage could be accounted for in terms of this disproportionate representation. Similarly, there are disproportionately few Blacks whose parents have had the benefits of Completed High School and Post-High School education (see Chapters 4 and 5), and one might again ask how much the Black disadvantage would be reduced were Black and white levels of parental education balanced. A further factor involving disproportionate representation of Blacks is that of Region (see Chapter 8).

Exhibit 3-1 shows the distribution of relative performances by Blacks at all four age levels, balanced for disproportionate type-of-community, parental education, sex and regional representation. (For the conceptual basis of the balancing operation, the interested reader is referred to Chapter 1, and for the arithmetic details, to Appendix B.) Following the balancing adjustment, the median results for Blacks are still below national results, but by amounts that are substantially less than those which do not take the balancing factors into account. The residual disadvantages are -10.2%, -11.0%, -7.7% and -10.9% at ages 9, 13, 17 and young Adult, respectively. (Compared to -14.5%, -15.0%, -11.8% and -15.8% as noted before in Exhibit 2-1.)

Exhibit 3-1

Distributions of relative performances of Blacks, balanced, for all science exercises at four ages

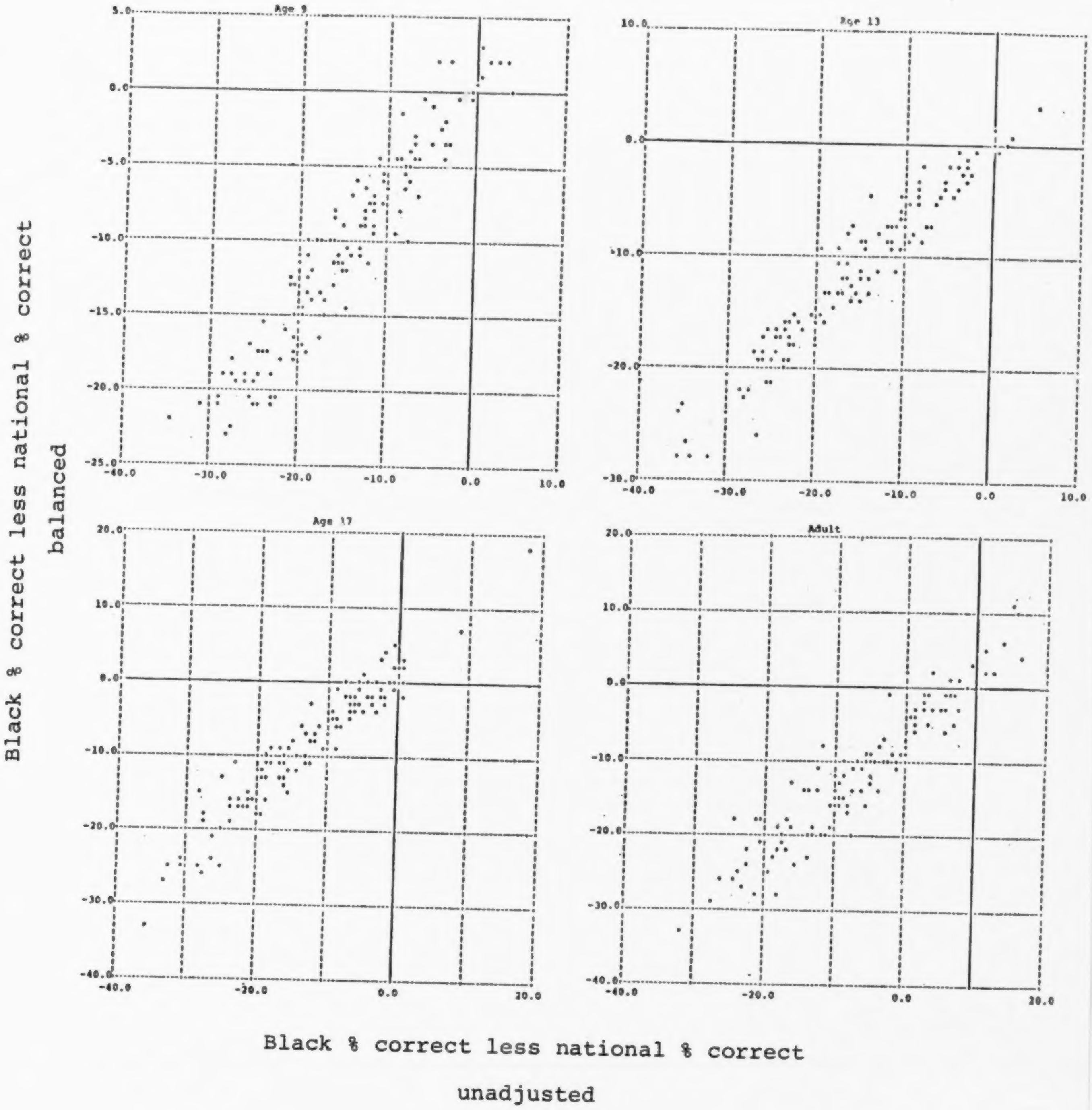


	9	13	17	A
No. of Exercises	145	122	124	119
Median	-10.2%	-11.0%	-7.7%	-10.9%

The 17-year-old age group retains the smaller disadvantage noted in the previous chapter. Other patterns over exercises, such as the difference between Objective 1 and Objective 2 exercises remain in force after balancing. There is a general reduction in the Black disadvantage, age by age, and exercise by exercise. Exhibit 3-2 displays the relationship over exercises between unadjusted and balanced results for each age. It is clear in general that on the exercises for which Blacks perform well before balancing, they also perform well after balancing. A similar statement could be made for exercises with relatively poor Black performance.

Exhibit 3-2

Relationship between unadjusted and balanced results for all exercises



Atypical Exercises

The procedure for identifying specific exercises on which Black performance (after balancing) is atypically high or atypically low is identical to the procedure used in National Assessment Report 4 for sex, region, and size-of-community groups. On the distributions of relative performances for all exercises, upper and lower cutoff values are placed (see arrows on Exhibit 3-1) in order to select and discuss exercises for which the Black disadvantage disappears, on the one hand, or is much worse than typical, on the other hand. The details of the procedure for selecting cutoffs are given in Appendix C.

9-Year-Olds

The exercises for which Blacks perform atypically at age 9 are listed in Exhibit 3-3. Exercises labeled "R" have been released to the public (see National Assessment Report 1) and therefore their content may be discussed in detail. Exercises labled "U," however, are being retained for reuse in later assessment cycles and therefore are not published at this time. In Exhibit 3-3 and throughout this report, no summary phrase in the "content" column is given for these unreleased exercises.

In the upper section of Exhibit 3-3 are listed exercises on which Blacks performed atypically well. Most of these exercises proved difficult for the national sample as a whole. Thirteen of the sixteen exercises show national percent correct of 36% or below, with seven of these thirteen having correct percentages below 20%. The 20% figure is what one would anticipate for a multiple-choice exercise answered by guessing at random among five alternatives, and therefore one may characterize national performance on these seven exercises as even worse than what respondents could obtain by guessing. (The situation actually is more complicated, since some percentage of respondents answered each exercise with "I don't know.") Altogether there are eight exercises at age 9 with national percentages below 20%, of which seven appear in Exhibit 3-3. An eighth one shows a Black difference of only -3%. These very difficult exercises do not turn out to show substantial differences between groups that differ on most other exercises.

Exhibit 3-3

Exercises showing atypical effects, balanced, for Blacks for age 9

	% Correct			
Exercise #	Black	Nat'l	% Difference	Content
U652*	35	33	2	
R141*	9	7	2	Mixing water of 50° and 70° yields water of 60°
U673*	12	11	1	
U650*	37	36	1	
U655*	15	14	1	
U678*	27	26	1	
U657*	12	11	1	
U621*	76	76	0	
U656*	12	12	0	
R140*	14	14	0	Dead plants form coal
R142*	96	96	0	Balancing a beam with one weight
U617	78	78	0	
U677*	33	33	0	
R158*	22	23	-1	What is a scientific theory
U671	39	31	-1	
U672*	18	19	-1	
U632*	47	66	-19	
U665*	51	70	-19	
R147*	49	68	-19	To test an idea, try it
U624*	54	73	-19	
U629*	50	69	-19	
U675*	56	75	-19	
U633*	46	65	-19	
R120*	53	72	-19	Transfer of momentum between objects
U634*	44	63	-19	
R109	66	86	-20	Rocks on Earth's surface are solid
U618*	57	77	-20	
R152	33	53	-20	Because of vaccinations few people get smallpox
R150*	35	55	-20	From chart--sodium is least common in human body
U667*	43	63	-20	
U616*	60	80	-20	
U661	67	87	-20	
U611*	67	87	-20	
U639*	33	54	-21	
R123*	44	66	-22	What scientists learn from fossils
R116*	57	79	-22	Mushrooms do not have green leaves
U668*	41	63	-22	

*Exercises also identified as atypical before balancing.

Note: – – – line separates atypical high from atypical low exercises.

The difficult exercises are often tricky and even misleading to respondents at the given age. For example, exercise R141 is as follows: "A pint of water at a temperature of 50° Fahrenheit is mixed with a pint of water at 70° Fahrenheit. The temperature of the water just after mixing will be about: ( )20° F.; ( )50° F.; ( )60° F.; ( )70° F.; ( )120° F.; ( )I don't know." Nine-year-olds are apt to be confused by the references to Fahrenheit, pints and the ° notation. Most (69%) treated the problem as one requiring addition of the two numbers, and responded 120° F. Of the national sample, 12% responded "I don't know," and only 7% responded with 60° F., the correct answer. Such difficult exercises do not tend to differentiate well between different subgroups of respondents, in particular between Blacks and Non-Blacks. About all one can say is that on such exercises, Black and Non-Black respondents are about equally often misled.

There are a couple of exercises where other factors may be at work behind the relatively good Black performance level. Exercises U621 and U617, both unreleased, require pieces of information about nutrition and volcanoes, respectively. The particular information involved is quite standard in first- and second-grade curricula, and the lack of color disparity is perhaps not too surprising. A third exercise, R142, requires the children to level a balance by hanging a weight appropriately on the lighter arm and reading off the proper numerical indicator on the arm. This was a trial-and-error exercise with actual weights rather than a paper-and-pencil question, and on such a directly experiential task, Black children did as well as white children. In fact, both groups exceeded 96% success.

The result from this last exercise hints that Black performance at the youngest age level is improved for exercises with direct experiential content. Furthermore, the Black disadvantage is great for exercises far removed from daily experience. The lower section of Exhibit 3-3 lists the exercises with atypically low Black performance. Four of the unreleased exercises involve relatively remote textbook facts about astronomy, geology, meterology, chemistry, electricity, human biology and the behavior of animals. Two call for using symbols and graphs, and one refers to the activities of scientists. The released exercises in Exhibit 3-3 convey the specific flavor of the kinds of questions on which Black 9-year-olds perform most poorly relative to other 9-year-olds. Exercise R116, with a Black disadvantage of 22 %, reads, "Which of these plants does NOT have green leaves: ( )A dandelion; ( )Grass; ( )A mushroom; ( )A willow tree; ( )I don't know." Another exercise (R123), with a disadvantage of 22 %, is, "What can scientists learn by studying fossils : ( )Why earthquakes took place; ( )What animals lived long ago; ( )How far the moon is from Earth; ( )What the weather will be tomorrow; ( )I don't know." This exercise, besides covering a content area quite removed from daily experience, requires that the children understand the vocabulary item "fossils." Other released exercises with a notable vocabulary component are R152, concerning vaccinations, on which the Black disadvantage is -20%, and R109, which refers to the Earth's "surface" (disadvantage also -20%).

Two other released exercises listed in Exhibit 3-3, R147 and R120, pertain to rather disparate contents: how the respondent might best tell if salt water taffy is really made just by mixing water, salt and sugar (mix those things and see what happens); and what would happen to a wooden block hanging on a string if another such block were released from the left in an arc to hit it (it will swing off to the right). These two exercises both require an abstract attitude toward unusual uses of familiar objects--a detached "What If" approach. If such an attitude is indeed needed to achieve correct responses on these two exercises, it apparently does not come as easily to Black 9-year-old respondents.

13-Year-Olds

Exhibit 3-4 lists the exercises on which Blacks perform atypically at age 13. Of these fifteen exercises on which Blacks perform atypically well, five have national percent correct figures below 20%, and another three between 20 and 40%. Thus there is some indication that difficult, undifferentiating exercises occur at the 13-year-old as well as the 9-year-old level. One or two exercises in this group, however, deserve note as being different from the difficult Science achievement questions discussed for 9-year-olds. Released exercise R247, with a Black advantage of 3%, is, "Do you ask questions about why things in nature are the way they are: ( ) Often; ( )Sometimes; ( )Never... If so, what questions have you asked most recently?" An "often" questioning attitude is reported by a slightly greater proportion of Black than Non-Black children. Unreleased exercise U775 is similar in its import. Whether this reported curiosity is specific to Science is not clear.

Exhibit 3-4

Exercises showing atypical effects, balanced, for Blacks for age 13

	% Correct			
Exercise #	Black	Nat'l	% Difference	Content
R247*	10	7	3	Do you often question things in nature
U774*	20	19	1	
U747*	8	8	0	
U741*	34	34	0	
U775*	5	5	0	
R222*	38	38	0	By natural selection, why giraffes have long necks
U769*	66	66	0	
U767*	89	89	0	
R237*	34	35	-1	Time a pendulum's swings
R243*	67	68	-1	Measurements in science: close not identical
U729*	50	51	-1	
U766	9	11	-2	
R217*	46	48	-2	Burning gasoline in a car creates heat
R202*	96	98	-2	Why brush your teeth
R203*	90	92	-2	Thick, dark clouds bring rain
U709*	61	80	-19	
U750*	60	79	-19	
R241	60	79	-19	Mathematics a useful skill in science
R234*	43	62	-19	Balance beam--weight in pan, weight on hook
U754*	44	63	-19	
R205*	66	85	-19	Comfortable temperature: 70° F
R236*	40	60	-20	From chart--determine dog's food ration
R212*	38	59	-21	Movement of air masses predicts weather
U707*	63	84	-21	
R214*	33	54	-21	Counterbalancing unequal weights on beam
R206*	57	78	-21	Why fan a campfire
U717*	41	63	-22	
U760*	19	42	-23	
U758*	26	49	-23	
U759*	23	47	-24	
U727*	27	53	-26	
U753*	43	69	-26	

Exhibit 3-4 (Continued)

Exercise#	% Correct Black	 Nat'l	% Difference	Content
R213*	30	57	-27	Radio waves least upset plant and animal life
R233*	43	70	-27	From chart--compare guinea pig weights
R215*	24	52	-28	Flower seeds develop from ovules

*Exercises also identified as atypical before balancing.

Note: – – – line separates atypical high from atypical low exercises.

Several of the exercises on which age 13 Blacks do about as well as Non-Blacks have reference to direct experience. Exercise R217 is, "Most of the chemical energy of the gasoline burned in a car is not used to move the car but is changed into: ( )electricity; ( )heat; ( )light; ( )magnetism; ( )sound; ( )I don't know." Answer: heat. Exercises R202 and R203 ask the purpose of toothbrushing, and what kind of clouds bring rain. Two unreleased exercises, U729 and U767, are questions based on everyday experiences about human biology and about scientists, respectively. In R237, the respondent is given a stopwatch and asked to time ten swings of a pendulum.

When we turn to those exercises on which Black 13s perform especially poorly in the lower section of Exhibit 3-4, there is evidence of the same bookish and abstract qualities noted earlier for poor performance of Black 9-year-olds. Among released exercises, there is a vocabulary component for R215, where the correct answer is "ovules"; R205, where the most comfortable "Fahrenheit" temperature is solicited; and R212, where information was asked about predicting weather, with the correct answer, "The movement and characteristics of air masses." Black deficits on these exercises are 28%, 19% and 21%, respectively. Unreleased exercises U707, U717 and U727, with comparable deficits, involve terms that may also be relatively unfamiliar to Black children.

Another set of exercises with poor Black performance involves the plotting and interpretation of data graphs. On Exercise R236, the child is shown a month-by-month chart of the weight of a dog. He is given recommended directions for feeding a dog according to its weight, and must then specify what food ration is appropriate in a given month. On Exercise R233, a study of the daily weights of two guinea pigs is described, and the respondent must pick the verbal statement which corresponds accurately with a graphical summary of the results. Unreleased exercises U758 and U760 require the child to use physical apparatus to generate data which is to be graphed, and then to label and interpret the graph. On all four of these exercises, the deficit exceeds 20%. Another two exercises involve anticipation or calculation of the appropriate way to balance a beam. On Exercise R214, the child must interpret a sketch of a lever arm and apply the principle that a 2-lb. weight four units from the pivot will balance a 4-lb. weight two units away on the other side of the pivot. On Exercise R234, the respondent is given a balance pan and some weights, along with a pictorial representation of this apparatus, and is asked three questions about balance points and weights. On the first question, performance of Black 13-year-olds is atypically poor (19% below national).

The remaining exercises in the lower section of Exhibit 3-4 represent an assortment of contents. Exercise R213 poses an ecological question in which the respondent must pick the one of five given actions which will not upset nature's balance, the correct choice being the broadcasting of radio waves. Exercise R206 inquires why fanning helps campfires, and R241, "Which of the following is most useful in scientific research: ( )music; ( )magic; ( )marketing; ( )mathematics; ( )manufacturing." The unreleased exercises not thus far discussed include U709, which deals with astronomy, U754, posing a hypothetical measurement problem, U750 and U753, exploring the difference between a "fact" and an "opinion" and U759, which involves a rough numerical estimation.

In general Black 13s do most poorly relative to the national sample on exercises involving either unfamiliar terms or remote content materials for which the correct approach involves the detached indirection characteristic of "scientific method."

17-Year-Olds

At the 17-year-old level, there is a reappearance of the same factors accounting for atypically good and atypically poor performances among Blacks at other age levels (Exhibit 3-5). In the upper group of exercises, we find a few difficult, undifferentiating exercises (U835, R332, U843). Unreleased exercise U841 is also quite difficult, but appears to differentiate groups in that Black respondents perform about 17% better than national average, after balancing (and also before balancing). Since this is by far the greatest Black advantage on any Science exercise in National Assessment, one would like to be able to point to some special content factor involved in this exercise. Unfortunately, it is likely that fortuitous features of the format are responsible for the unique characteristics of this exercise. Several graphical alternatives are offered as completions for a question on a physical equation. The exercise is of such difficulty that respondents probably chose among the graphs on the basis of their superficial appearances.

Exhibit 3-5

Exercises showing atypical effects, balanced, for Blacks for age 17

Exercise #	% Correct		% Difference	Content
	Black	Nat'l		
U841*	36	19	17	
R[illegible]*	56	48	8	Efficient use of food can cause overweight
U835*	33	26	7	
R332*	24	20	4	How scientists determine rock age
U843*	18	15	3	
U856*	42	60	-18	
U855*	43	62	-19	
U813*	48	67	-19	
U811*	52	71	-19	
R312*	40	59	-19	Unaided eye detects certain wavelengths of light
U809*	51	72	-21	
U816*	37	60	-23	
R316*	29	53	-24	Adrenalin is a stimulant to the heart
R309*	41	65	-24	Who proposed natural selection in evolution
R305*	52	76	-24	Movement of air masses predicts weather
R344*	30	55	-25	Time a pendulum's swings
R340*	54	79	-25	Which weight experiment gives strongest evidence
R341*	49	74	-25	Balance beam--weight in pan; weight on hook
U820*	29	56	-27	
U852*	40	73	-33	

*Exercises also identified as atypical before balancing.

Note: – – – line separates atypical high from atypical low exercises.

Exercise R322 is also a tricky one. The correct alternative is the one which completes the following seemingly paradoxical sentence: "If a person who is a light eater has a tendency to be overweight, it is most likely due to highly efficient utilization of food by the body." We do not know what fraction of the national 48% correct is due to lucky misunderstanding, such as reading "inefficient" for "efficient" and thinking this to lead to overweight. Therefore, any interpretation of the Black advantage of 8% is hazardous.

Three exercises of interest yield very slight Black advantages after balancing, but do not exceed the upper cutoff and are therefore not shown in Exhibit 3-5. One of these is released exercise R350. It reads, "Whenever scientists carefully measure any quantity many times, they expect that: ( )all of the measurements will be exactly the same; ( )only two of the measurements will be exactly the same; ( )all but one of the measurements will be exactly the same; ( )most of the measurements will be close but not exactly the same; ( )I don't know." The balanced proportion of Black 17s choosing the correct and eminently sensible answer (most will be close but not exactly the same) was 2.7% above the national average. An unreleased question (U807) about physical principles in home appliances yields a balanced Black advantage of 1.6%, and a released exercise (R314) about why giraffes evolved long necks, a balanced Black advantage of 1.5%. The latter is the same exercise as R222 for 13-year-olds, on which the balanced Black disadvantage was 0%.

In the lower group of exercises (Exhibit 3-5), vocabulary factors again account for some of the results. Released exercise R316 requires the knowledge that "adrenalin stimulates the heart," and unreleased exercises U809 and U820 also use unfamiliar words involving aspects of body chemistry. Exercise R309 asks for the association of Darwin's name with the idea of natural selection in a theory of evolution. Exercise R305 is the same question as R212, about "movement and characteristics of air masses," on which Black 13s also showed atypically great disadvantage.

Other exercises replicating poor 13-year-old results are: U856, which like U758 required a graph of data generated by the respondent from a physical apparatus; and R341, which like R234 gave the respondent a balance pan, weights and pictorial instructions and asked how to balance a weighted pan. A further question with the same apparatus is unreleased exercise U852, with a 17-year-old Black balanced disadvantage of 33%. Clearly, Black 17s experienced some difficulty with laboratory exercises (although the number of 17-year-old Black respondents exposed to each such exercise was small, about 80, and therefore the percentage results are statistically unstable). Another laboratory exercise giving an atypically large deficit is R344, involving the timing of ten swings of a pendulum. This particular exercise showed no Black disadvantage in its age 13 form (R243). Comparing the percentages of correct responses on the pendulum exercise for the two ages in Exhibits 3-4 and 3-5, it appears that there was no Black improvement from ages 13 to 17, but a sizable national improvement (about 20%). It is not clear whether this result indicates that the progress of Black teen-agers suddenly stops on certain laboratory Science tasks, or whether there is some fortuitous peculiarity in the administration of this particular exercise. Exercise R340 presents hypothetical experiments involving the measured weights of two objects, with four observations on each weight in each experiment, and on this exercise, there is a Black disadvantage of 25%.

The other five exercises in Exhibit 3-5 include R312, a released exercise comparing different forms of electromagnetic radiation, with the answer that only "certain wavelengths of light" can be detected with unaided human eyes. The unreleased exercises (U855, U811, U813, and U816) cover various topics in electricity, the mechanics of springs, properties of light, and the concept of a hypothesis.

Adults

At the Adult level, Exhibit 3-6, six exercises show atypically good Black performance; of these, two (R433 and U948) are so difficult as to be undifferentiating. Of the remaining four, the two released ones are as follows--R410: "An electric current in a copper wire involves mainly the movement of: ( )copper atoms; ( )copper molecules; ( )electrons; ( )neutrons; ( )protons; ( )I don't know." --R418: "A 5-pound rock is dropped from a cliff 500 feet high. The longer the rock falls, the greater is its: ( )acceleration; ( )potential energy; ( )speed; ( )total energy; ( )volume; ( )I don't know." The Black advantages, after balancing, on these two exercises are each 4%. Both have the character that the straightforward answers are correct--"electrons" for the first, and "speed" for the second exercise. Black Adults tend slightly less often than Non-Black Adults to be tempted to choose the fancy incorrect alternatives. The remaining two exercises with atypically good Black performance are both unreleased, U968 and U921. Exercise U968 is an attitude question (Objective 4) emphasizing curiosity in everyday matters, and U921 is a question about astronomy verifiable by direct observation.

Exhibit 3-6

Exercises showing atypical effects, balanced, for Blacks for Adults

	% Correct			
Exercise #	Black	Nat'l	% Difference	Content
U968*	56	45	11	
R433*	24	15	9	How scientists determine rock age
U948*	14	9	5	
R410*	66	62	4	Current involves movement of electrons
R418*	55	51	4	Speed of falling rock increases
U921*	67	63	4	
R405*	44	70	-26	Secondary result of vasectomy
R406*	43	69	-26	Adrenalin is a stimulant to the heart
U919	37	64	-27	
R403*	57	84	-27	Movement of air masses predicts weather
U957*	25	54	-29	
U956*	23	56	-33	

*Exercises also identified as atypical before balancing.

Note: – – – line separates atypical high from atypical low exercises.

Adult exercises with atypically poor Black performance include two released questions overlapping with 17-year-old exercises with atypically poor Black performance. R406 concerns adrenalin as a stimulant to the heart, and R403 the importance for weather prediction of the "movement and characteristics of air masses." Two unreleased Adult exercises also overlap with previous exercises and yield comparable results. On Exercise U956, which repeats U760 and U856 involving the graphing of laboratory data, there is a Black deficit of 33%. The follow-up graphical exercise U957 shows a deficit of 29%; the parallel question at age 13, U758, yielded a deficit of 23%. Unreleased exercise U919 overlaps U813 concerning properties of light, and at both ages 17 and Adult there is atypically poor Black performance. The only newly appearing exercise in the lower portion of Exhibit 3-6 is R405, with Black Adults performing 26% less well than national, after balancing. This exercise concerns the consequences for Adult human males of tying off their main sperm ducts in a simple operation. The alternative answers were: "( )The voice will eventually become high pitched; ( )Fatty pads will gradually develop on the hips; ( )Behavior will eventually become more effeminate; ( )The hair will develop in longer strands than usual; ( )None of the above will occur; ( )I don't know." The question as formulated requires the answer "None of the above," and as such is perhaps more an assessment of a non-anxious attitude toward side effects of apparently sensitive medical procedures than a direct probe of the knowledge of the purpose of vasectomy.

Summary

In general, over all age levels of what is probably the most suggestive theme running through these atypical exercises, we may state the following: Blacks perform best on those science exercises most dependent upon daily experience and common knowledge and worst on those which involve a detached research attitude toward the objects and phenomena of Science. There are several factors in the Black educational, environmental and cultural situation that might explain such an outcome. It is not possible from a single cycle of National Assessment to choose among the many conceivable sets of explanatory factors. A number of research efforts over a period of years would be needed to begin to resolve these questions. If the science performance of Black youngsters improves steadily in the years ahead, however, the need to explain the deficit on the first National Assessment will recede in importance. We all hope that some of the many current innovations in methods and technology of teaching and in the organization of educational systems will produce substantial educational gains for all children, Black and Non-Black. Future National Assessment cycles will show the pattern and extent of any such improvements.

Chapter 4

PARENTAL EDUCATION GROUPS

Every respondent to NAEP exercises, at age levels 9, 13, 17 and Adult, was asked to indicate the highest year of schooling completed by his mother and his father. In this chapter, we discuss the percentages of correct responses to the science exercises for each of several levels of reported parental education:

Level	Definition
0	Education of parents was not ascertained.
1	Neither mother nor father was educated beyond 8th grade.
2	Either mother or father had some high school, but neither completed high school.
3	Either mother or father completed high school, but neither was trained beyond high school.
4	Either mother or father was educated beyond high school.

It should be stressed that the data available on education of parents (except as noted below for some 9-year-olds) is that reported by the respondent on the "tail-sheet" of the exercise booklet. If the respondents were in error in reporting the schooling of their mothers or fathers, they will be misclassified on parental education.

More often than at other ages, 9-year-olds failed to respond to the questions about education of their parents. In some cases where responses to these questions were omitted, exercise administrators provided the information from school records. In many other cases, the parents' education was not ascertained, and the respondents were classified at level 0 on parental education.

The median number of respondents classified at every level of parental education for each age is shown in Exhibit 4-1. (For different booklets or "packages" of exercises, the actual number of respondents varies somewhat, above and below these median numbers.) It may be seen from Exhibit 4-1 that, for many 9-year-olds, the information was not ascertained. Also,

Exhibit 4-1

Median numbers of respondents per exercise for each level of parental education

	Level of parental education				
Age	0	1	2	3	4
9	789	125	144	567	787
13	252	109	250	762	1049
17	39	146	347	697	959
Adult	51	293	159	200	189

it is likely that at age 9, more than at the other ages, respondents made errors in responding concerning the numbers of years of school for their mother or father.

Before presenting any detailed results, it is of interest to consider whether, on typical Science exercises, performance differences are related to the reported level of parents' education. For this purpose, Exhibit 4-2 shows graphically the median effect -- expressed as a difference from the median national percentage correct -- for respondents at each level of parental education. At each age it is apparent that median performance is below the national median for levels 0 (Unascertained), 1 (No High School), and 2 (Some High School), rising above the national median for level 4 (Some Education Beyond High School). At level 3 (Graduated from High School) median performance is near the national median. On typical Science exercises, respondents who report that at least one parent had substantial formal schooling perform better, as a group, than respondents who report less schooling for both parents.

Throughout this chapter, we must remember that respondents classed at a given level of parental education may differ in many ways from those classed at other levels. In particular, the various levels of STOC (size and type of community-- see Chapter 6), sex, region and color may not be proportionately represented at each level of parents' education. Effects that are apparently related to parental education, then, in some cases may be more simply explained by differences in STOC or differences in color that are masquerading as differences in education. In Chapter 5 we shall return to this matter. For now, we simply present the data by level of parents' education without any adjustment for the possible effects of other variables.

Level 1: Neither Parent Attended High School

Exhibit 4-3 shows the distribution of effects at parents' education level 1 for all science exercises at each age. At each age, the median percent correct is below that for the national sample. The median effect ranges from -7.2% at age 9 to -11.8% at age 13. This tells us that, for the average science exercise, respondents whose parents failed to attend high school obtain correct answers from 7 to 12 percent less often than the national average for each age group.

Exhibit 4-2

MEDIAN EFFECTS FOR LEVELS OF PARENTAL EDUCATION AT FOUR AGES.

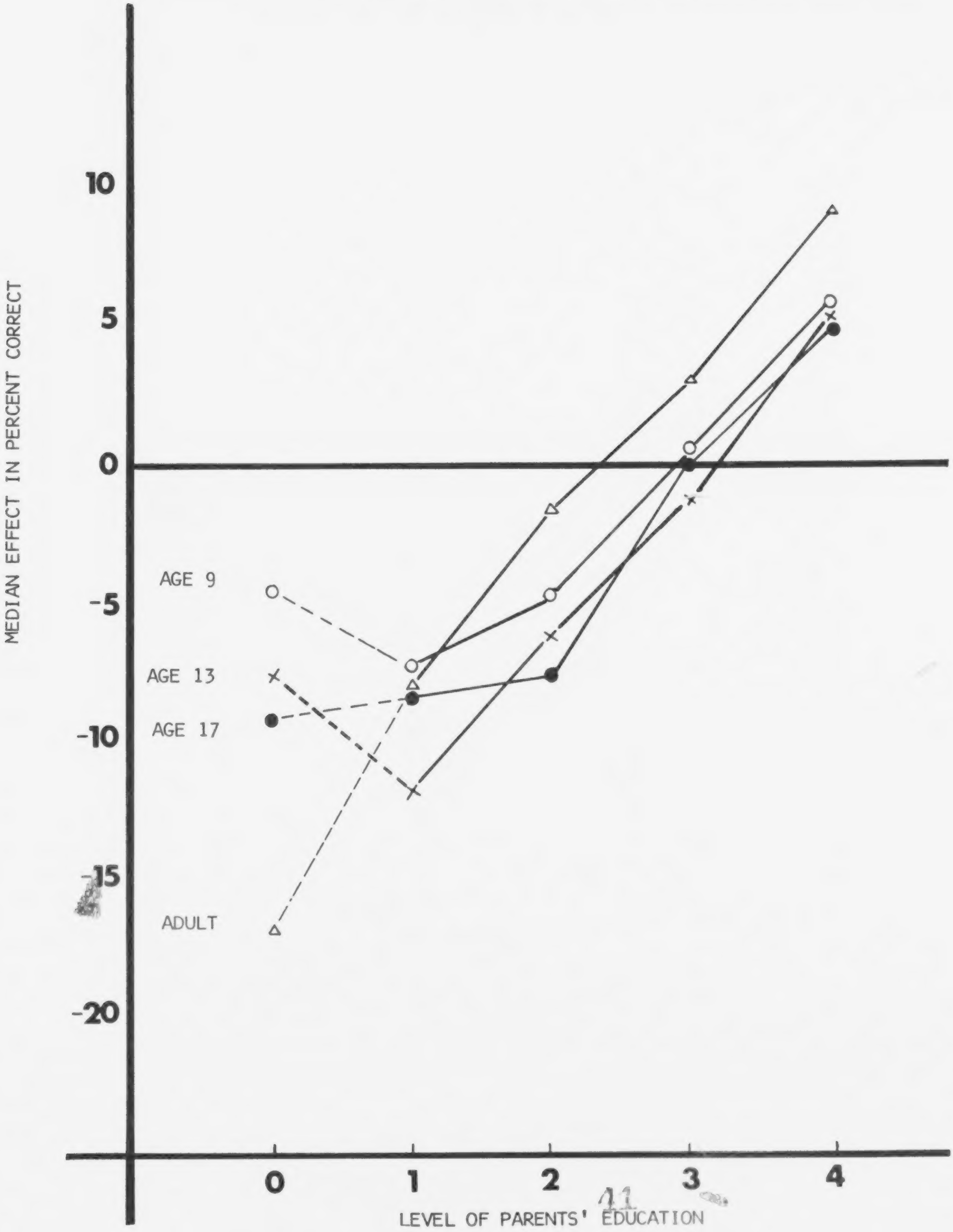


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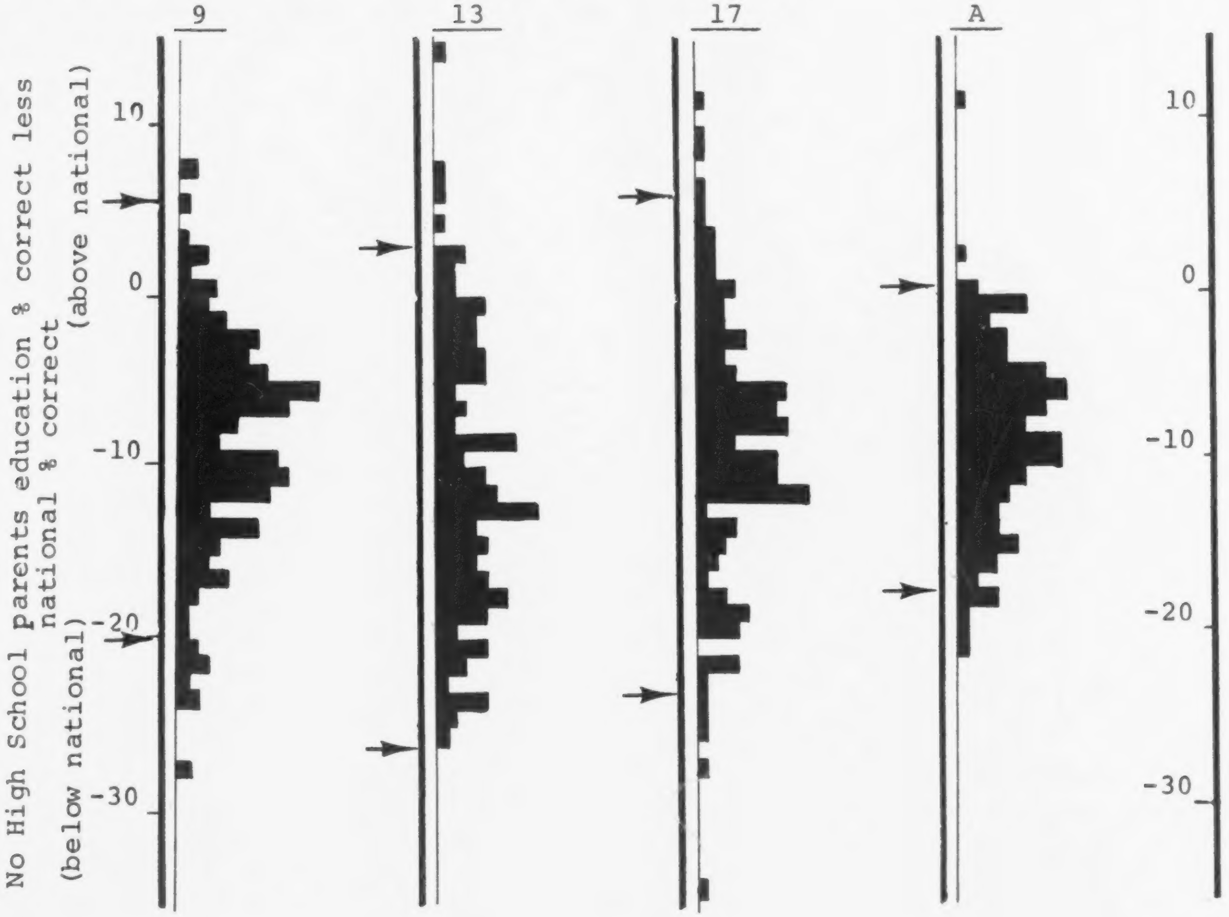
Exhibit 4-3

Distributions of parental education effects, No High School, for all science exercises at four ages



No. of Exercises	145	122	124	119
Median	-7.2%	-11.8%	-8.4%	-7.9%

The arrows in Exhibit 4-3 show the "cutoffs" beyond which exercises are considered atypical in their effect (for definition of "cutoff" see Appendix C). Some exercises are atypical in showing greater than usual effects of level 1, parents' education. Other exercises are atypical in showing lesser than usual effects, or effects in the direction opposite to the usual direction. For a few science exercises, respondents reporting that neither parent attended high school give correct responses at a rate higher than the national percent correct. The discussion of atypical exercises will be left to Chapter 5.

Level 2: At Least One Parent Attended High School

In Exhibit 4-4 appear the distributions of effects for level 2 of parental education for all science exercises. At each age, median performance of respondents for whom neither parent completed high school is below the median performance for the nation as a whole, and the majority of all science exercises display the effect. The effect, however, is less marked for Adults than for the other three age groups. Exercises that show atypical effects fall in the extremes of the displays of Exhibit 4-4, beyond the cutoffs shown by arrows.

Level 3: At Least One Parent Graduated from High School

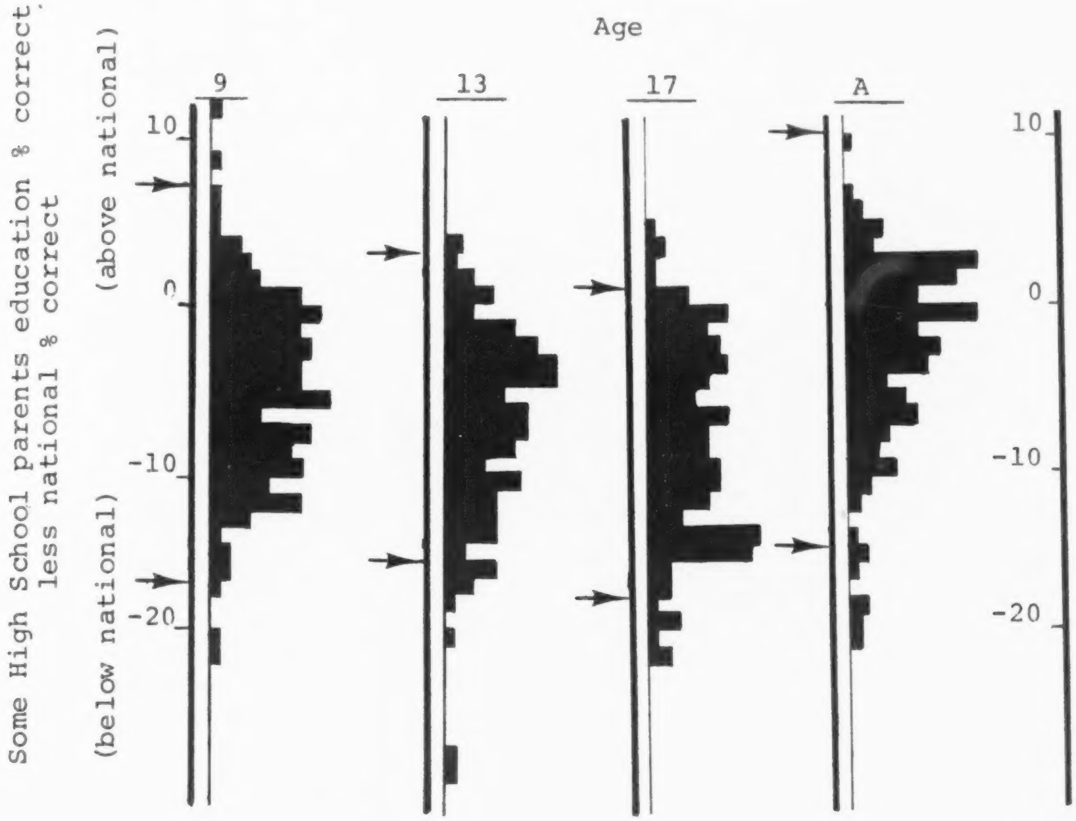
Exhibit 4-5 shows that, on most exercises, performance of respondents at parents' education level 3 is similar to that for the national sample. At age 13, there is a slight tendency for such respondents to perform less well than the average for all 13s, while at the Adult age, such respondents perform a bit better than the average for all Adults. Beyond the arrows in Exhibit 4-5 are only a few exercises for which effects of education level 3 is atypical.

Level 4: At Least One Parent Educated Beyond High School

Exhibit 4-6 displays the distribution of effects for respondents at parental education level 4. Median effects range from 5.1% at age 17 to 9.1% for Adults. At each age, the body of results attests to the higher performance on science exercises of those respondents with at least one parent with Post-High School Education. A relatively large number of science exercises show atypical level 4 effects. These are the exercises that fall beyond the arrows in Exhibit 4-6. Those that remain atypical for balanced results are presented and discussed in Chapter 5.

Exhibit 4-4

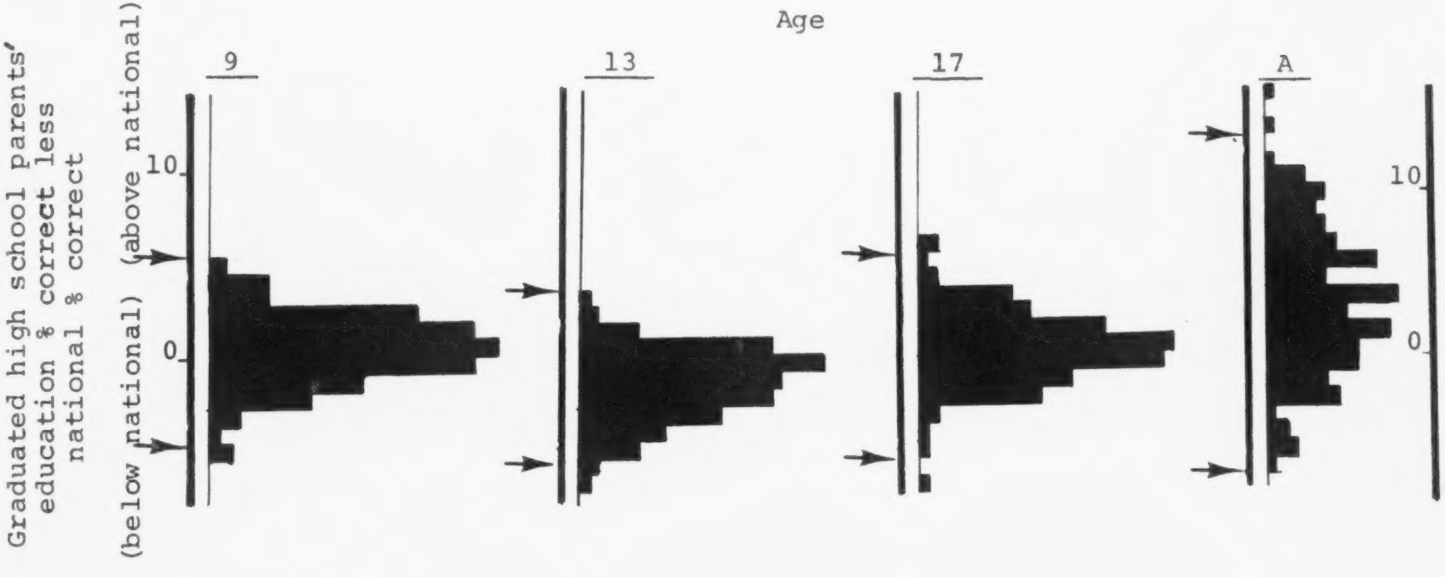
Distributions of parental education, Some High School,
for all science exercises at four ages



No. of Exercises	145	122	124	119
Median	-4.8%	-6.2%	-7.6%	-1.6%

Exhibit 4-5

Distributions of parental education, Graduated High School, for all science exercises at four ages



No. of Exercises	145	122	124	119
Median	0.6%	-1.3%	0.1%	3.0%

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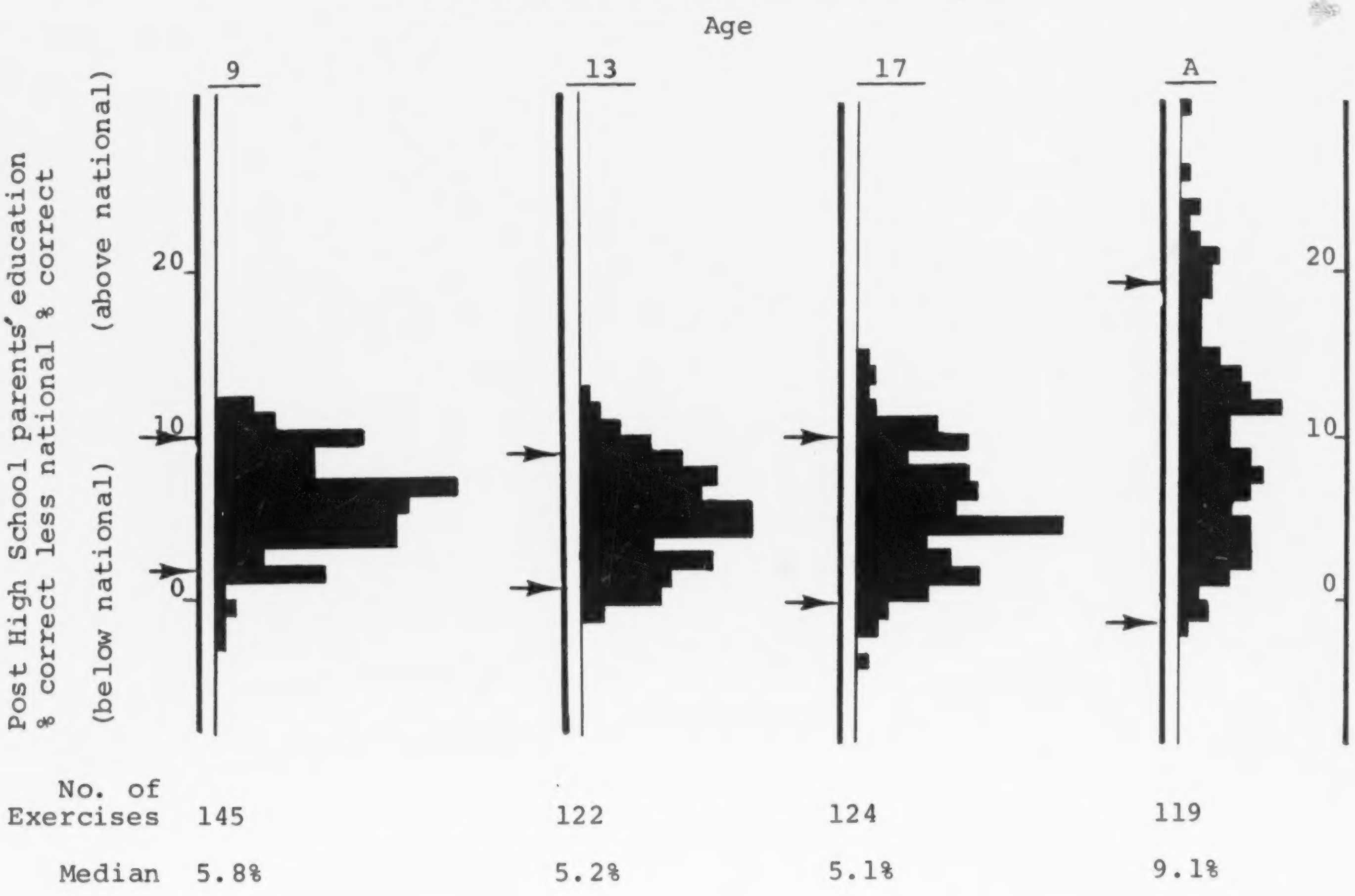
Exhibit 4-6

Distributions of parental education effects, Post High School, for all science exercises at four ages



Level 0: Parental Education Unascertained

From Exhibit 4-7, it is clear that for respondents who fail to provide the requested information about their parents' education, performance on Science exercises tends to be below the national average. The median effect ranges from -4.6% at age 9 to -16.8% for Adults. The relatively small deficit at age 9 suggests that all levels of actual parental education may be represented in this group of children who are unable to say how far their parents continued in school. But the story is quite different for Adults. Indeed, for Adults at level 0, performance is lower than for Adults at level 1 (neither parent attended high school).

Parental Education Effects for Various Science Objectives and for Physical Science Versus Biological Science

Median relative performance for the various levels of parental education are given separately for the four science objectives in Exhibit 4-8. It may be seen that the trend showing better performance with increasing levels of parental education appears to hold separately for each science objective at each of the four ages. In general, the trend is quite similar for the exercises designed to assess the various science objectives. There is some suggestion of smaller effects associated with parental education for Objective 4 (attitudes towards Science and scientists), although the smaller numbers of exercises administered for this objective prompt us to be somewhat cautious about this finding.

In Exhibit 4-9, educational effects are displayed separately for physical science exercises, biological science exercises and unclassified exercises. The trend of effects dependent upon parental education is essentially the same for all three classes of exercises.

Exhibit 4-7

Distributions of parental education, Unascertained, for all science exercises at four ages

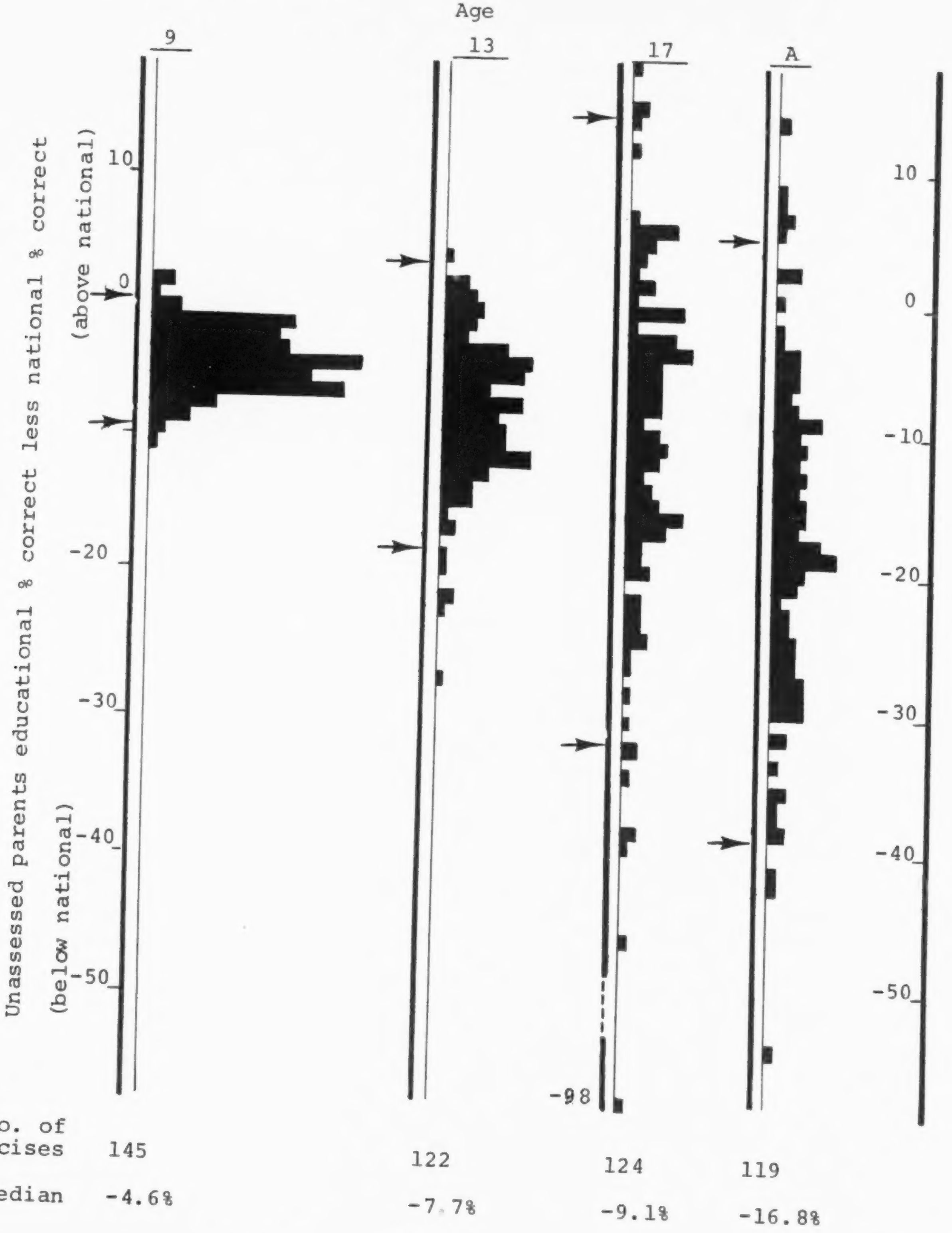


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Exhibit 4-8

Median effects associated with parental education groups for science exercises classified by objective

		Level of parental education				
Age	Objective*	0	1	2	3	4
9	1	-4.4	-7.3	-4.6	0.7	5.4
	2	-6.2	-6.7	-3.5	0.8	6.9
	3	-4.5	-7.1	-7.3	0.1	6.2
	4	-3.7	-9.0	-5.4	-0.4	4.9
13	1	-7.1	-11.5	-6.2	-1.5	5.4
	2	-10.4	-12.5	-7.5	-1.4	5.7
	3	-11.0	-13.5	-3.3	-1.3	4.9
	4	-4.4	-2.0	-2.6	-0.2	1.4
17	1	-7.7	-8.0	-7.1	0.2	4.9
	2	-12.5	-10.5	-9.7	0.0	7.3
	3	-4.5	-6.3	-3.9	-0.8	4.0
	4	-5.0	-1.7	-6.3	0.1	4.6
Adult	1	-15.6	-8.2	-1.2	2.4	9.2
	2	-18.1	-7.2	-5.2	5.9	6.2
	3	-17.1	-10.6	-5.6	2.0	11.2
	4	-11.2	-5.3	-.4	0.0	5.4

*1 - Facts and principles
2 - Abilities and skills
3 - Understand investigative nature
4 - Attitudes and appreciations

Exhibit 4-9

Median effects associated with parental education groups for physical science, biological science, and unclassified exercises

Age	P, B, or U*	Level of parental education 0	1	2	3	4
9	P	-4.5	-9.4	-4.4	0.5	6.2
	B	-4.4	-5.9	-3.9	0.8	5.0
	U	-4.7	-7.1	-8.1	-0.3	7.0
13	P	-7.4	-11.1	-6.4	-1.4	5.2
	B	-7.8	-12.2	-6.2	-1.9	5.4
	U	-9.2	-12.3	-3.6	-0.9	3.9
17	P	-7.2	-9.4	-8.4	0.1	5.3
	B	-12.6	-6.5	-7.2	0.7	4.9
	U	-5.0	-7.6	-6.3	-0.1	4.6
Adult	P	-15.6	-7.6	-2.5	3.7	7.6
	B	-17.8	-8.7	-0.8	2.0	10.2
	U	-16.8	-7.0	-2.8	0.3	11.0

*P - Physical Science
B - Biological Science
U - Unclassified Exercises

Chapter 5

PARENTAL EDUCATION GROUPS: BALANCED RESULTS

The previous chapter presented results on science exercises for parental education groups as they are. Within the group characterized as level 1 on parental education (where neither parent attended high school) we have relatively heavy representation of respondents from the inner city and from rural communities, of Blacks, and of Southeasterners. When we consider balanced effects for level 1 respondents, we are asking how their performance would be expected to compare with national performance if the proportion of inner city and rural respondents, the proportion of Blacks, and proportion of Southeasterners were the same in level 1 of parental education as for the national sample. The balanced results give a clearer impression of differences associated with parental education after removing effects that might be attributed to the classification of respondents by region, type of community or color.

Exhibit 5-1 provides some information about changes in the results for science exercises as a consequence of balancing. We consider the difference between the medians at the highest and lowest levels of parental education for each of the four age groups. After balancing, that difference is reduced by from 2 percentage points to almost 6 percentage points. After balancing, the difference between median performance at educational level 4 and at educational level 1 is relatively uniform over ages, ranging between about 9% and 12%. The conclusion is the same if we look at balanced results only for those exercises common to two or more ages. While some exercises show greater or lesser effects of parental education, the difference between median balanced performance of respondents who report that a parent was educated beyond high school and respondents who report that neither parent attended high school is roughly 10% at all age levels.

Let us now turn to a more detailed perusal of results for each level of parental education. In particular, we consider science exercises with effects differing markedly from the overall median effect.

Exhibit 5-1

Percentage Differences between median effects at parental education levels 4 and 1 for unadjusted and balanced results at each age

Age	Unadjusted difference	Balanced difference	Change due to balancing
9	13.0%	9.1%	3.9%
13	17.0%	11.2%	5.8%
17	13.6%	11.6%	2.0%
Adult	17.0%	12.4%	4.6%

Level 1: Neither Parent Attended High School

For level 1, the balanced median deficit from the national percentage correct varies from about 5% (at age 9 and at Adult) to about 7.5% (at ages 13 and 17). However, at each age, some science exercises show atypically greater effects and some atypically lesser effects. Data about these atypical exercises appear in Exhibit 5-2.

At age 9, two released exercises (R149 and R120) show level 1 deficits of 19% and 22%, respectively. R149 requires scientific reasoning from a pictorial representation. At neither age 13 nor 17 are there released exercises that show an atypically large deficit at level 1. At the Adult age level, R407 and R411 show large deficits, between 14% and 15%, whereas the median deficit is about 5%. Both require the mastery of knowledge -- i.e., that testes produce sperm, and that flower seeds are produced by ovules.

These exercises, and those unreleased exercises that show atypically large level 1 deficits, seem to fall into two classes: either (a) scientific knowledge is required and relatively unfamiliar words must be recognized (e.g., ovules, testes, photosynthesis) or (b) a cognitive task of translation from graphical or pictorial evidence to a conclusion stated in words is required. Respondents at this lowest parental education seem to have special difficulty with these two kinds of science exercises.

Certain other exercises (R319 and R418) are atypically easy for respondents at level 1 of parental education; indeed, these respondents obtain correct answers more often than the national average. A careful review of the content of these exercises does not lead us to any simple hypothesis concerning why they appear to be unusually easy for respondents whose parents failed to attend high school.

Level 2: At Least One Parent Attended High School

Level 2 respondents tend to perform less well than the national average. The balanced median effects show deficits of from 1% (for Adults) to 5% (for 17-year-olds).

Inspection of exercises atypical at level 2 (Exhibit 5-3) suggest that the same principle may be at work here as at level 1. Exercises requiring reasoning from graphs or pictures tend to be exceptionally difficult for respondents whose parents failed to complete high school, as do exercises that demand special vocabulary knowledge.

Exhibit 5-2

Exercises showing atypical effects, balanced, for education level 1

(Neither parent attended high school)

		% Correct			
Age	Exercise #	Level 1	Nat'l	% Difference	Content
9	U621*	84	76	8	
	U648*	19	37	-18	
	U665*	52	70	-18	
	R149*	45	64	-19	From chart--select highest temperature
	R120*	50	72	-22	Transfer of momentum between objects
13	U769*	79	66	13	
	R240*	14	4	10	Find density of wood block using ruler and balance
	U741*	42	34	8	
17	R319*	65	54	11	Speed of falling rock increases
	U843*	25	15	10	
	R330*	38	29	9	Egg release is 14 days after menstruation
	U820*	33	56	-23	
	U853*	33	65	-32	
Adult	R418*	62	51	11	What constitutes chemical change
	U960	38	29	9	
	U919*	70	64	6	
	U956	59	56	3	
	U917*	56	71	-14	
	U929*	35	49	-14	
	R407*	54	68	-14	Testes produce sperm
	R411*	48	62	-14	Flower seeds develop from ovules
	U927*	33	50	-17	

*Exercises also identified as atypical before balancing.

Note: — — — line separates atypical high from atypical low exercises.

Exhibit 5-3

Exercises showing atypical effects, balanced, for education level 2

(At least one parent attended but failed to complete high school)

Age	Exercise #	% Correct: Level 2	% Correct: Nat'l	% Difference	Content
9	R137*	46	33	12	Mercury is heavier than water
13	U724*	45	58	-13	
	U723*	45	58	-13	
	R215*	39	52	-13	Flower seeds develop from ovules
	R220*	26	39	-13	Wood floats higher in salt water than fresh
	U742*	15	28	-13	
	U721*	46	60	-14	
	U760*	28	42	-14	
	R233*	55	70	-15	From chart--compare guinea pig weights
	U758*	34	49	-15	
17	R327*	37	33	4	Molecules of air carry sound
	U839*	24	20	4	
	R351	13	27	-14	Kinetic-molecular theory
	U853*	50	65	-15	
	U828*	23	39	-16	
	R309*	49	65	-16	Who proposed natural selection in evolution
	U814*	49	65	-16	
Adult	U958	37	50	-13	
	R440*	38	51	-13	Effect of reduced rabbit population on hawks and grass
	U956*	42	56	-14	
	R418*	34	51	-17	Speed of falling rock increases
	U960*	11	29	-18	
	U961*	4	23	-19	

*Exercises also identified as atypical before balancing.

Note: _ _ _ line separates atypical high from atypical low exercises.

Level 3: At Least One Parent Completed High School

For respondents at this level, overall performance is close to the national average, with median balanced effects ranging from about -1% at age 13 to +1% for Adults. Inspection of atypical exercises (Exhibit 5-4) shows that there are few exercises at any age that depart markedly from the median performance, and that those few exercises seem not to be closely related, one to the other, in content or form.

Level 4: At Least One Parent Educated Beyond High School

For respondents at level 4, median balanced performance on science exercises is well above the nation at all four ages, about 4% above for ages 9, 13 and 17, and about 7% above for young Adults. Many exercises are atypical in showing greater or lesser balanced effects as level 4; these are listed in Exhibit 5-5.

Level 4 respondents performed especially well on exercises that demand a deep understanding of the scientific method -- exercises concerning testing hypotheses (R147 and several unreleased exercises), reading charts and graphs (R150, R233 and unreleased exercises) -- and on a number of exercises that demand knowledge of particular facts and principles. Where respondents at level 1 show a deficit, respondents at level 4 tend to perform unusually well.

Level 0: Parental Education Unascertained

The balanced median effects for parental education level 0 are -4% at age 9, -5% at age 13, -9% at age 17 and -13% for Adults. The deficit in performance for respondents who fail to report the educational level of their parents becomes systematically larger with increasing age. It should be noted from Exhibit 4-1 that only small numbers of 17-year-olds and Adults fall in parental education level 0.

Exhibit 5-6 lists the exercises that show atypical differences from the median effect at each age. A number of exercises that show atypical deficits for level 0 seem to entail the ability to draw scientific inferences (e.g., R153, R131, R147, R235, R342, U853, U857). Others call for specific knowledge about science (U633, U723, R309, R316). These exercises have some resemblance to those that show atypical deficit at level 1. It seems likely that of the respondents who fail to report the level of their parents' education, many have parents with relatively limited numbers of years of schooling.

Exhibit 5-4

Exercises showing atypical effects, balanced, for education level 3

(At least one parent completed high school)

		% Correct			
Age	Exercise #	Level 3	Nat'l	% Difference	Content
9	none				
13	U761*	35	41	-6	
	R219	34	40	-6	Why milk is pasteurized
	U726*	50	56	-6	
	R213*	51	57	-6	Radio waves least upset plant and animal life
17	U814*	71	65	6	
	U860	24	30	-6	
	U856*	53	60	-7	
Adult	U963*	32	20	12	
	R405*	81	70	11	Secondary result of vasectomy
	U930	40	48	-8	

*Exercises also identified as atypical before balancing.

Note: – – – line separates atypical high from atypical low exercises.

Exhibit 5-5

Exercises showing atypical effects, balanced, for education level 4

(At least one parent educated beyond high school)

Age	Exercise #	% Correct		% Difference	Content
		Level 4	Nat'l		
9	U633*	75	65	10	
	R159*	33	23	10	Writing a poem is not part of science
	R147*	77	68	9	To test an idea, try it
	U626*	80	72	8	
	R150	63	55	8	From chart--sodium is least common in human body
	U634*	71	63	8	
	R152*	61	53	8	Because of vaccinations few people get smallpox
	U646	46	38	8	
	R141*	7	7	0	Mixing water of 50° and 70° yields water of 60°
	U673*	10	11	-1	
	U653*	20	21	-1	
13	U717*	72	63	9	
	R213*	66	57	9	Radio waves least upset plant and animal life
	U754*	72	63	9	
	U773*	45	37	8	
	R233*	78	70	8	From chart--compare guinea pig weights
	U725*	66	58	8	
	R244*	64	56	8	What is a scientific theory
	U772*	92	92	0	
17	U853*	77	65	12	
	R342*	75	66	9	Effect of reduced rabbit population on hawks and grass
	U829*	45	36	9	
	R316*	62	53	9	Adrenalin is a stimulant to the heart
	R343	65	56	9	Differentiate fact from theory
	R309*	74	65	9	Who proposed natural selection in evolution
	R319*	50	54	-4	Speed of falling rock increases

Exhibit 5-5 (Continued)

		% Correct			
Age	Exercise #	Level 4	Nat'l	% Difference	Content
Adult	U958*	75	50	25	
	R419*	71	49	22	Hot water molecules move faster
	U927*	69	50	19	
	R426*	55	36	19	Molecular speed determines different states of water
	U920*	82	64	18	
	R407*	86	68	18	Testes produce sperm
	R423*	58	41	17	Classifying plants and animals by structure
	U965*	73	56	17	
	R409*	78	62	16	Who proposed natural selection in evolution
	U963	18	20	-2	
	U919	62	64	-2	
	U921	61	63	-2	

*Exercises also identified as atypical before balancing.

Note: — — — line separates atypical high from atypical low exercises.

Exhibit 5-6

Exercises showing atypical effects, balanced, for education level 0 (parental education unascertained)

		% Correct			
Age	Exercise #	Level 0	Nat'l	% Difference	Content
9	U637*	58	57	1	
	U653*	22	21	1	
	R141*	8	7	1	Mixing water of 50° and 70° yields water of 60°
	R153	30	38	-8	Full sink would not explain faulty faucet
	R131*	43	51	-8	Cactuses lose little water through leaves
	U633*	57	65	-8	
	R147*	59	68	-9	To test an idea, try it
13	R208*	79	74	5	Rocket launch possible on moon
	U723*	42	58	-16	
	R235*	45	62	-17	Which weight experiment gives strongest evidence
17	U828*	58	39	19	
	U860*	47	30	17	
	R325	57	41	16	Function of placenta in pregnant woman
	U805	50	82	-32	
	R309*	31	65	-34	Who proposed natural selection in evolution
	R316*	28	53	-35	Adrenalin is a stimulant to the heart
	R342*	30	66	-36	Effect of reduced rabbit population on hawks and grass
	U853*	25	65	-40	
	R344*	15	55	-40	Time a pendulum's swings
	U857*	14	55	-41	
Adult	R445*	26	11	15	Find density of wood block using ruler and balance
	U961*	34	23	11	
	U957*	9	54	-45	
	U956*	8	56	-48	

*Exercises also identified as atypical before balancing.

Note: — — — line separates atypical high from atypical low exercises.

Chapter 6

SIZE AND TYPE OF COMMUNITY

In previous reports respondents were divided into four size of community (SOC) categories: Big City, Urban Fringe, Medium City and Smaller Places. In this report a more detailed classification* into seven categories is used. This classification of respondents is by school not by pupil and is based in part on information from the questionnaire filled out by the principals of participating schools. See Appendix B of Report 1.

The first of these new categories is Extreme Inner City. A school was classified as an Extreme Inner City school if a high proportion of parents were either not regularly employed or were on welfare, and only a low proportion were professional or managerial. The majority, 85.6%, of the respondents from Extreme Inner City schools came from the former Big City SOC category.

The second new category is Extreme Affluent Suburb. A school was placed in this category if a high proportion of parents were professional or managerial and only a few were factory or farm workers, or not regularly employed. More than half of the respondents from Extreme Affluent Suburb schools came from the Big City Fringe (53.0%) SOC category. Big City (29.3%) and Medium City (16.5%) making up the rest.

The third new category, Extreme Rural, was defined by schools where a high proportion of parents were farm workers. The number of respondents in this category coming from the SOC category of Smaller Places was 78.1%.

These three extreme categories were defined so that approximately 10% of the total sample fell into each. Thus, 70% of the respondents whose schools did not fall into one of these extreme categories were grouped by their original size of community classification. Thus, a student in the Big City classification was classified as Inner City Fringe if he did not fall in one of these new extreme categories. Students in the Urban Fringe who did not fall into a new extreme category were classified as Suburban Fringe. Respondents from the Smaller Places category were classified as Small Cities if they did not fall into one of the new extreme categories. Since the Medium City Size Community category contributed few, if any, schools to the three new extreme categories, it was left virtually unchanged.

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* See Appendix D for explicit definitions of these new classifications.

Exhibit 6-1 displays the median effect (difference between the percent correct for the subgroup and the national percent correct) for each of the four original categories and for the new categories by each of the four age groups in the sample. It is clear from these data that the criteria for picking the three extreme types of communities did indeed isolate groups of students whose performance was extreme.

The concentration of the Big City deficit in the Extreme Inner City is particularly striking. This large deficit and to a lesser extent that associated with the Extreme Rural category clearly identifies those schools where American education faces its greatest challenge. Obviously many of the children in these schools are seriously deficient in their science achievement.

The gap between the Extreme Affluent Suburb and both the Extreme Inner City and the Extreme Rural is largest for 9-year-olds (7.2% vs. -15.1% and -6.3%). It decreases for the 13- and 17-year-olds (6.3% vs. -13.7% and -6.1%) and (5.1% vs. -7.4% and -3.5%), and then rises sharply for the young Adults (10.9% vs. -10.2% and -4.7%). Since the young Adults were not attending school, a different technique was used to classify them into the extreme subcategories. This, together with the tendency for the better educated to escape from the Extreme Inner City and for the most successful to migrate to the Extreme Suburb, probably underlies the large gap for the young Adult sample.

Compared with Adults, 17-year-olds show markedly smaller deficit in the Extreme Inner City and a smaller advantage in the Extreme Affluent Suburb. However, this may be due to the fact that there were substantially more very difficult exercises given to the 17-year-old sample than the other age groups (See page 10 Chapter 1 of Report 1). Very difficult multiple choice exercises tend to give the guesser an advantage over the respondent who tries to work it out. This hypothesis is supported by the fact that when we analyze the 69 exercises with national percents of at least 40% for 17-year-olds, the national effects are: for Extreme Inner City -10.4%, for Extreme Affluent Suburb +6.2% and for Extreme Rural -6.1%. It may be that the 17-year-old respondents were not as representative of their age group as were those respondents at the other ages.

The median effects for 9-year-olds for physical science exercises, biological science exercises and the remaining unclassified exercises are shown in Exhibit 6-2. This exhibit also displays the median effects for the four science objectives described in Report 1. The median performance of each of the seven community types is remarkably uniform across the different sorts of

Exhibit 6-1

Median effects by size and type of community for all ages

			Age		
SOC	STOC	9	13	17	Adult
Big city		-4.8	-4.7	-2.6	-2.4
	Extreme inner city	-15.1	-13.7	-7.4	-10.2
	Inner city fringe	-2.6	-3.8	0.3	-2.9
Urban fringe		3.0	3.4	2.4	3.2
	Extreme affluent suburb	7.2	6.3	5.1	10.9
	Suburban fringe	2.7	2.9	1.0	0.8
Medium city		0.8	1.1	0.8	0.4
	Medium city	0.8	1.9	1.2	0.4
Smaller places		-1.2	-1.1	-2.1	-2.8
	Extreme rural	-6.3	-6.1	-3.5	-4.7
	Small cities	0.9	0.5	-1.4	-2.7

Note: Figures show difference between the group percent correct and the national percent correct.

Exhibit 6-2

Median effects for 9-year-olds by type of question and objective*

	Physical science	Biological science	Unclas-sified exer.	Objective 1	2	3	4
Extreme Inner City	-15.4	-15.7	-13.4	-15.7	-17.1	-11.5	-13.4
Inner City Fringe	-3.1	-2.6	-1.8	-3.1	-0.6	-3.0	0.8
Extreme Affluent Suburb	7.3	7.0	9.7	7.2	7.2	8.5	2.6
Suburban Fringe	3.5	2.0	1.7	3.0	2.4	1.8	1.1
Medium Cities	0.4	1.4	1.0	0.9	0.6	2.3	0.2
Extreme Rural	-6.3	-5.6	-8.2	-6.0	-7.2	-9.4	-6.2
Small Cities	0.9	1.0	1.7	0.9	1.2	0.5	-0.1

*1 - Facts and principles
2 - Abilities and skills
3 - Understand investigative nature
4 - Attitudes and appreciations

exercises. In particular, their relative performance on physical science exercises almost exactly matches their performance on biological science questions. The slight variability observed in the rest of the table is quite likely due to the small number of exercises included in these groups. Exhibit 6-2.

Exhibits 6-3, 6-4, and 6-5 show comparable data for 13-year-olds, 17-year-olds and young Adults, respectively. The 13-year-olds, like the 9-year-olds, show virtually no change in pattern between physical and biological science or between objective one, two and three. Objective 4 shows a much smaller range of variation but this is based upon only a few exercises.

In the Extreme Inner City, 17-year-olds have a greater deficit in physical science than in biological science (-8.5% compared with -5.3%) while those in the Extreme Rural show just the opposite effects (-3.1% compared with -6.8%). Thus, the Extreme Inner City students do relatively better in biological science and the Extreme Rural ones better in physical science.

Like the 9-and 13-year-olds, young Adults show little difference in their relative performance on physical and biological science exercises except that the Extreme Inner City respondents showed a slightly smaller deficit in physical science.

Exhibits 6-6 through 6-9 show the distribution of effects for all science exercises across all four ages for the three extreme categories and the Medium City category. A comparison of the medians for all seven STOC categories was made earlier in this chapter, and the four distributions selected for Exhibits 6-6 through 6-9 were most interesting and indicative of the others.

Exhibit 6-3

Median effects for 13-year-olds by

type of question and objective*

	Physical science	Biological science	Other science	Objective 1	2	3	4
Extreme Inner City	-13.4	-14.9	-11.1	-14.1	-14.0	-14.6	-3.5
Inner City Fringe	-3.5	-5.4	-3.0	-4.1	-4.1	-3.0	-2.2
Extreme Affluent Suburb	6.1	7.4	4.2	6.2	7.8	5.4	2.6
Suburban Fringe	3.0	3.2	2.0	2.7	3.3	2.3	1.4
Medium Cities	1.6	3.4	.3	1.7	2.6	0.7	0.9
Extreme Rural	-6.5	-6.5	-4.1	-6.8	-6.1	-1.7	-2.4
Small Cities	0.7	-0.1	1.1	0.8	-0.6	2.2	-0.1

*1 - Facts and principles
2 - Abilities and skills
3 - Understand investigative nature
4 - Attitudes and appreciations

Exhibit 6-4

Median effects for 17-year-olds by type of question and objective*

	Physical science	Biological science	Other science	Objective			
				1	2	3	4
Extreme Inner City	-8.5	-5.3	-6.6	-8.0	-7.9	-5.4	-4.1
Inner City Fringe	-0.4	2.0	0.3	0.2	0.0	1.1	1.2
Extreme Affluent Suburb	5.2	4.8	5.1	4.9	6.1	7.0	4.4
Suburban Fringe	0.6	1.3	3.5	0.9	2.3	-0.7	3.3
Medium Cities	1.2	1.3	-0.2	1.4	1.3	1.3	-0.6
Extreme Rural	-3.1	-6.8	-2.2	-3.3	-4.4	-9.2	0.8
Small Cities	-0.8	-2.3	-2.4	1.4	-1.6	-1.2	-2.4

*1 - Facts and principles
2 - Abilities and skills
3 - Understand investigative nature
4 - Attitudes and appreciations

Exhibit 6-5

Median effects for young Adults for type of question and objective

	Physical science	Biological science	Other science	Objective 1	2	3	4
Extreme Inner City	-10.0	-13.1	-8.2	-10.0	-13.5	-8.5	-7.1
Inner City Fringe	-2.9	-3.1	-2.3	-3.5	-0.9	-3.6	-1.0
Extreme Affluent Suburb	9.5	10.0	14.1	11.0	6.6	13.0	9.9
Suburban Fringe	0.6	1.4	-2.0	0.3	4.6	-0.6	-1.6
Medium Cities	1.2	-1.0	0.2	-0.1	2.2	-0.2	0.9
Extreme Rural	-4.0	-5.1	-7.3	-9.9	-8.0	-7.6	-8.9
Small Cities	-2.9	-2.2	-4.3	-2.9	-1.8	-7.1	-2.4

*1 - Facts and principles
2 - Abilities and skills
3 - Understand investigative nature
4 - Attitudes and appreciations

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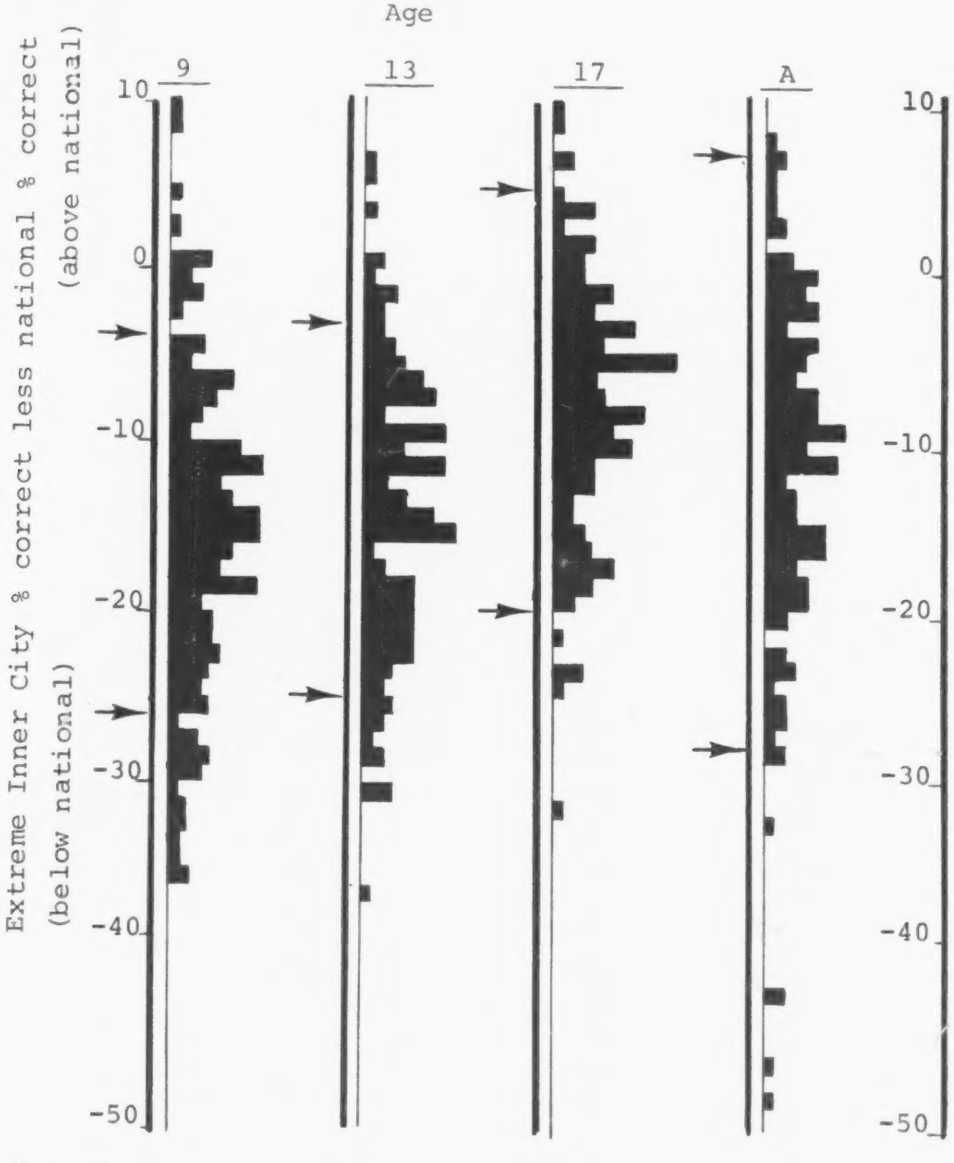
Exhibit 6-6

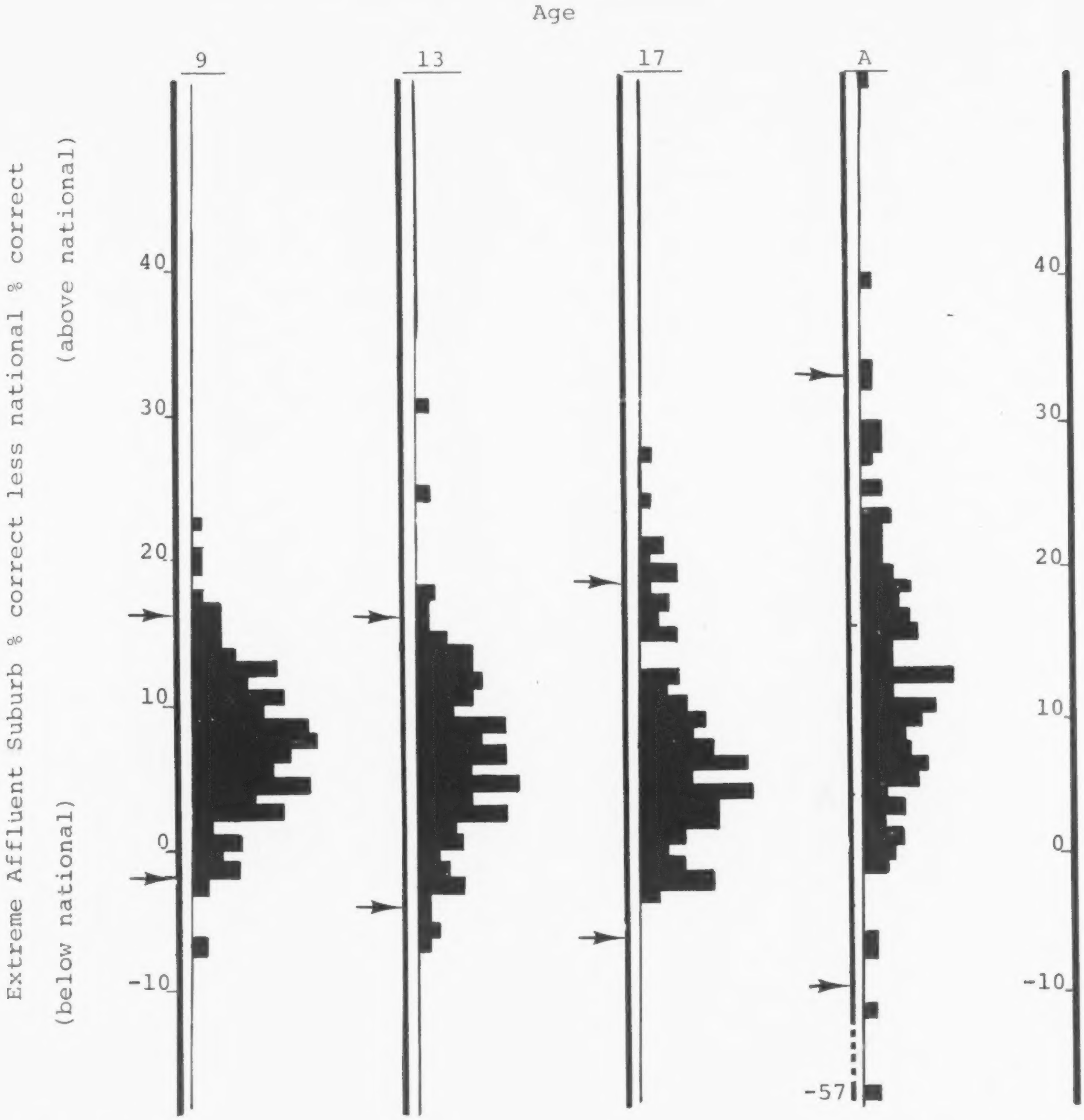
Distributions of Extreme Inner City effects for all science exercises at four ages



No. of Exercises	145	122	124	119
Median	-15.1%	-13.7%	-7.3%	-10.2%

Exhibit 6-7

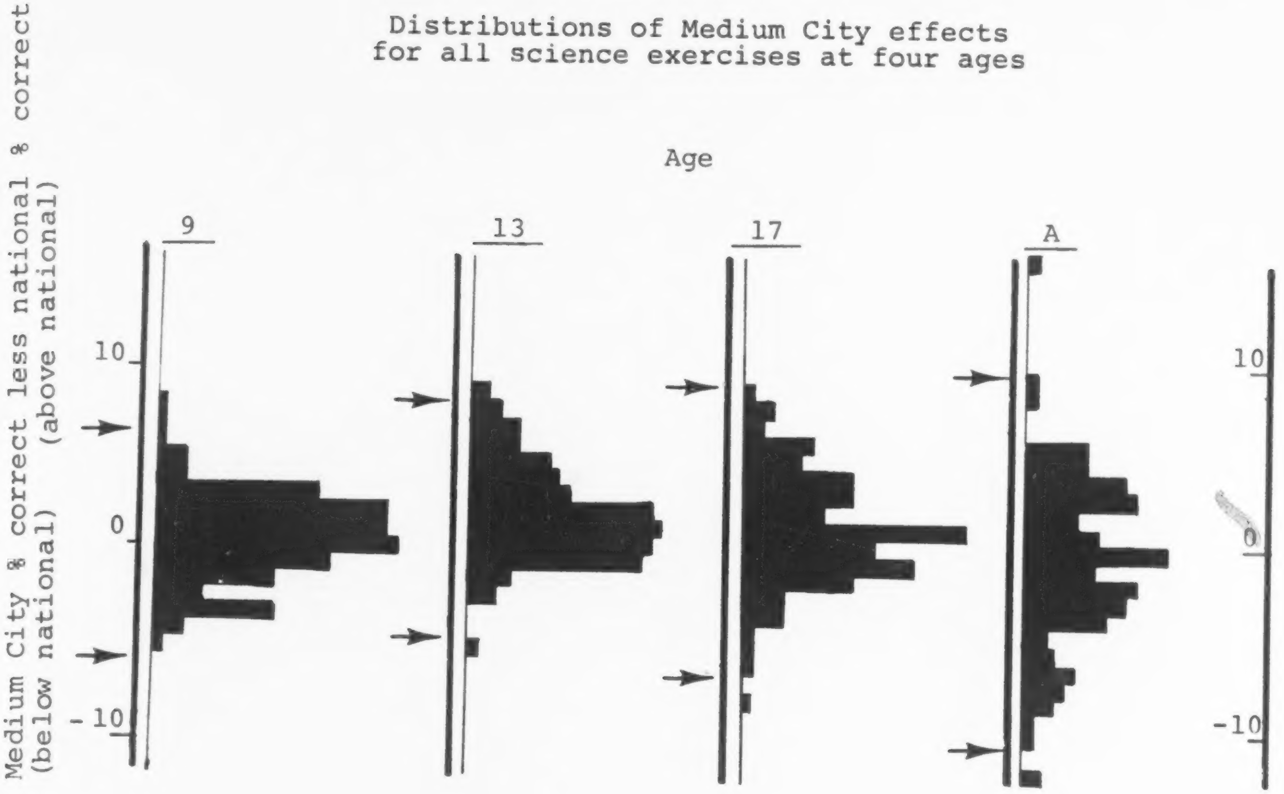
Distributions of Extreme Affluent Suburb effects
for all science exercises at four ages



	9	13	17	A
No. of Exercises	145	122	124	119
Median	7.2%	6.3%	5.1%	10.9%

Exhibit 6-8

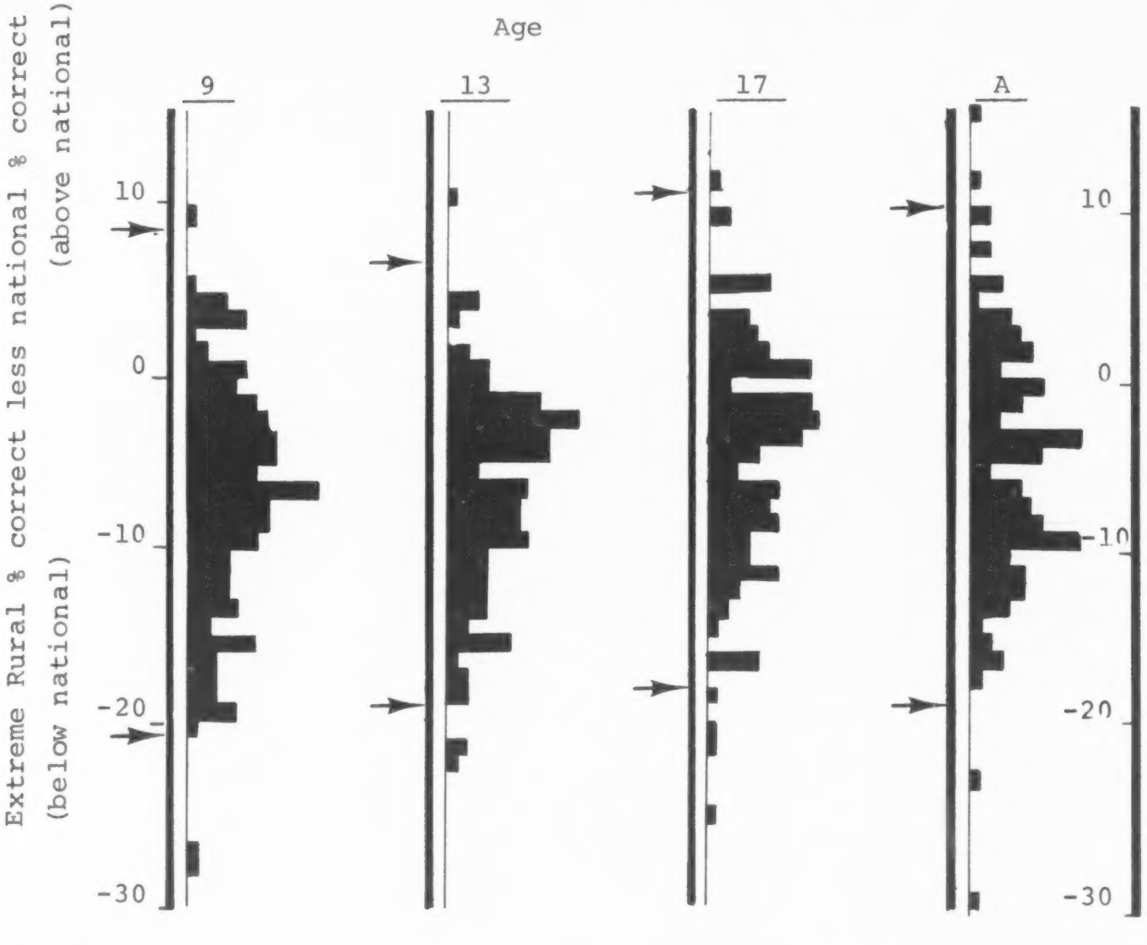
Distributions of Medium City effects for all science exercises at four ages



	9	13	17	A
No. of Exercises	145	122	124	119
Median	0.8%	1.9%	1.3%	0.4%

Exhibit 6-9

Distributions of Extreme Rural effects
for all science exercises at four ages



	9	13	17	A
No. of Exercises	145	122	124	119
Median	-6.3%	-6.1%	-3.5%	-4.7%

Chapter 7

SIZE-AND-TYPE OF COMMUNITY GROUPS: BALANCED RESULTS

The median effects associated with the seven types of community after balancing on region, sex, color and parental education are presented in Exhibit 7-1. In general the balanced effects are just about half of the unadjusted effects presented in Exhibit 6-1 of the preceding chapter. However, there are several exceptions worth noting: the median balanced effects for 13-year-olds, 17-year-olds and Adults in the Inner City are only about one-third as large as the unadjusted medians, and that for Extreme Rural Adults is essentially unchanged after balancing.

The large reduction in the type of community effects produced by balancing indicates that much of the unadjusted effect was due to masquerading by other variables. The especially large reductions for inner city respondents suggest that the problems facing the inner city schools come from the combination of several different sorts of factors, some associated with color, some with parental education and some with region. The effects remaining after balancing are primarily associated with features of the inner city community. Because a variety of factors contribute to the inner city deficit, there may well be a variety of ways to improve the achievement of the children in these schools.

In a similar way, a number of factors acting in combination are associated with the performance deficit found for Extreme Rural communities and the performance advantage in the Extreme Affluent Suburb.

Exhibit 7-1 clearly shows the inner city and rural deficit and the affluent suburb advantage for typical science exercises. However, not all science exercises show the same effects, and it may be instructive to consider atypical exercises, for which the size-type of community balanced effects differ from the median balanced effect for that community.

Extreme Inner City

Exhibit 7-2 lists atypical exercises for the Extreme Inner City. At each age, those exercises for which inner city performance is atypically high are difficult exercises where the national percentage correct is no greater than 34% (with only one exception, apparatus exercise R341 at age 17). The unusually good performance on these difficult exercises could be due to more frequent guessing on the part of inner city respondents.

Exhibit 7-1

Balanced median effects by size and type of community for each age

	Age			
	9	13	17	Adult
Extreme Inner City	-6.9	-5.5	-2.3	-3.2
Inner City Fringe	-1.5	-2.2	0.4	-1.9
Extreme Affluent Suburb	4.4	3.3	2.6	5.6
Suburban Fringe	0.7	1.0	-0.6	-0.9
Medium Cities	0.4	0.9	0.6	0.8
Extreme Rural	-3.4	-2.8	-1.6	-4.5
Small Cities	0.5	0.7	-0.2	-2.0

Exhibit 7-2

Exercises showing atypical effects, balanced, for Extreme Inner City for all ages

Age	Exercise #	% Correct		% Difference	Content
		EIC[†]	Nat'l		
9	U655*	23	14	9	
	U673*	17	11	6	
	R140*	19	14	5	Dead plants form coal
	R137*	37	33	4	Mercury is heavier than water
	R149*	46	64	-18	From chart--select highest temperature
	R104*	73	91	-18	Iron doesn't readily burn
	U644*	23	41	-18	
	R125*	42	61	-19	Plants get water from soil
	U616*	61	80	-19	
	R146*	55	75	-20	Air leak produces flat tire
	U622*	55	75	-20	
	U665*	49	70	-21	
	U682*	50	72	-22	
	U630*	45	68	-23	
13	U741*	40	34	6	
	U758*	32	49	-17	
	U760*	25	42	-17	
	R209*	46	65	-19	Sedimentary rock in layers
17	R341	85	74	11	Balance beam--weight in pan; weight on hook
	U816*	45	60	-15	
	R314	42	56	-16	By natural selection, why giraffes have long necks
	R306*	45	66	-23	What doesn't increase supply of food
Adult	U961	1	23	-22	
	U960	6	29	-23	
	U956*	32	56	-24	
	U957*	26	54	-28	
	R441*	9	48	-39	Time a pendulum's swings
	U955*	28	71	-43	

*Exercises also identified as atypical before balancing.

[†] Extreme Inner City

Note: — — — line separates atypical high from atypical low exercises.

Many more exercises show atypically low performance for inner city respondents, especially at age 9 and for young Adults. Included in this group at age 9 are a number of exercises that assess rather earthy aspects of Science (R104, R125, R146, U644, U616, U622, U665 and U630); correct answers to many of these come not from the classroom, but from everyday experiences of children--experiences, however, that are less likely to be encountered by 9-year-olds in an inner city environment. At the adult ages, all exercises displaying atypical deficit are apparatus exercises. Perhaps, when apparatus exercises are presented to adults during an interview in their home, inner city adults tend to be somewhat less cooperative, and thus appear to perform poorly on such exercises.

Extreme Affluent Suburb

In the affluent suburb, more exercises show atypically high than atypically low performance (Exhibit 7-3). Both released and unreleased exercises that display unusually large affluent suburb advantages tend to assess relatively abstract facts and principles of Science; the affluent suburbs seem to perform best on exercises that depend upon science knowledge learned in the classroom.

Extreme Rural

While relatively few exercises are atypical for rural respondents (Exhibit 7-4), there is a tendency for those on which performance is atypically high to tap knowledge that is likely to be learned from general experience in rural communities. For example, the unreleased exercises on this list at the Adult level ask about (a) the importance of green plants, (b) the effects of heating water in containers of varying shapes and (c) the behavior of a wooden block floating on water. In contrast, an atypical rural deficit is seen for several exercises demanding graph reading, and for exercises R406 and R409, requiring considerable mastery of vocabulary as well as detailed formal knowledge.

Other STOC Groups

For the Inner City Fringe (Exhibit 7-5), the Suburban Fringe (Exhibit 7-6), the Medium City (Exhibit 7-7) and the Small City (Exhibit 7-8), relatively few exercises display atypical effects. No patterns of exercise content are easily discernible.

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Exhibit 7-3

Exercises showing atypical effects, balanced, for Extreme Affluent Suburb for all ages

Age	Exer-cise #	% Correct		% Dif-ference	Content
		EAS†	Nat'l		
9	U645*	56	40	16	
	R123	81	66	15	What scientists learn from fossils
	R153*	52	38	14	Full sink would not explain faulty faucet
	R128*	68	55	13	Sun is a star
	U639*	67	54	13	
	R130*	66	53	13	Comfortable temperature: 70°F
	U648*	50	37	13	
	U651*	29	34	-5	
	R140*	9	14	-5	Dead plants form coal
13	U760*	69	42	27	
	U758*	68	49	19	
	U755*	51	59	-8	
	R234*	54	62	-8	Balance beam--weight in pan; weight on hook
17	U866*	50	30	20	
	R326*	51	35	16	Salt in water lowers freezing point
	U823*	61	46	15	
	U838*	37	22	15	
	U822*	68	54	14	
	R318*	65	51	14	What constitutes chemical change
	U813*	81	67	14	
	R343	45	56	-11	Differentiate fact from theory
Adult	U962*	63	22	41	
	U956*	90	56	34	
	R441	77	48	29	Time a pendulum's swings
	U957*	81	54	27	

*Exercise also identified as atypical before balancing.
†Extreme Affluent Suburb

Note: – – – line separates atypical high from atypical low exercises.

Exhibit 7-4

Exercises showing atypical effects, balanced, for Extreme Rural for all ages

		% Correct			
Age	Exercise #	ER†	Nat'l	% Difference	Content
9	R157*	51	39	12	Recognize an untestable statement
	U666	76	66	10	
	U675*	57	75	-18	
	U662*	62	81	-19	
13	U762*	31	22	9	
17	U853*	49	65	-16	
	U857*	39	55	-16	
Adult	U922*	76	62	14	
	R418	62	51	11	Speed of falling rock increases
	U928*	59	49	10	
	U963	30	20	10	
	R406*	40	69	-19	Adrenalin is a stimulant to the heart
	R409*	34	62	-28	Who proposed natural selection in evolution

*Exercise also identified as atypical before balancing.
†Extreme Rural

Note: – – – line separates atypical high from atypical low.

Exhibit 7-5

Exercises showing atypical effects, balanced, for Inner City Fringe for all ages

		% Correct			
Age	Exercise #	ICF†	Nat'l	% Difference	Content
9	R157	28	39	-11	Recognize an untestable statement
	U615	68	80	-12	
	U635	49	61	-12	
13	R234*	77	62	15	Balance beam--weight in pan; weight on hook
	U755*	73	59	14	
	U714	79	71	8	
	U751*	60	73	-13	
	R215*	38	52	-14	Flower seeds develop from ovules
17	R343*	68	56	12	Differentiate fact from theory
	U865*	30	20	10	
Adult	U962*	47	22	25	
	U964	33	18	15	
	R449*	19	28	-19	Often watch T.V. science programs
	U915*	53	74	-21	

*Exercises also identified as atypical before balancing.
†Inner City Fringe

Note: – – – line separates atypical high from atypical low exercises.

Exhibit 7-6

Exercises showing atypical effects, balanced, for Suburban Fringe for all ages

		% Correct			
Age	Exercise #	SF[†]	Nat'l	% Difference	Content
9	R123*	74	66	8	What scientists learn from fossils
	R150*	46	55	-9	From chart--sodium is least common in human body
13	U755	53	59	-6	
	R237*	29	35	-6	Time a pendulum's swings
	U762*	14	22	-8	
17	R344*	41	55	-14	Time a pendulum's swings
Adult	R441*	62	48	14	Time a pendulum's swings
	U921*	48	63	-15	

*Exercise also identified as atypical before balancing.

[†] Suburban Fringe

Note: – – – line separates atypical high from atypical low.

Exhibit 7-7

Exercises showing atypical effects, balanced, for Medium City for all ages

Age	Exercise #	% Correct		% Difference	Content
		MC†	Nat'l		
9	R122*	78	71	7	Honey bees are helpful to man
	U640*	60	53	7	
13	U744	35	28	7	
	U737*	36	42	-6	
17	R322*	40	48	-8	Efficient use of food can cause overweight
	R327	25	33	-8	Molecules of air carry sound
	U824	36	45	-9	
Adult	U960	47	29	18	
	R441*	64	48	16	Time a pendulum's swings
	U957	67	54	13	
	U956	68	56	12	

*Exercise also identified as atypical before balancing.
†Medium City

Note: – – – line separates atypical high from atypical low.

Exhibit 7-8

Exercises showing atypical effects, balanced, for Small City for all ages

		% Correct			
Age	Exercise #	SC†	Nat'l	% Difference	Content
9	U635	68	61	7	
13	U754*	56	63	-7	
17	R345*	29	39	-10	Understand conservation of matter
Adult	U957	38	54	-16	
	U963	4	20	-16	

*Exercise also identified as atypical before balancing.
†Small City

Note: – – – line separates atypical high from atypical low.

Chapter 8

REGIONAL GROUPS: BALANCED RESULTS

In Report 4, the patterns of correct response to the science exercises were examined for consistencies and discrepancies among the nation's regions. In this chapter, we examine the patterns in the regional samples after balancing for the disproportionate representation of four other characteristics--sex, size and type of community, education of parents, and color. To what extent can the regional effects noted in Report 4 be considered to grow out of this lack of proportionality? What effects remain after appropriate balancing procedures (described in Chapter 1 and in Appendix B) have been applied to the regional data?

The median effects at the four ages for the four regions, both the unadjusted and the balanced, are pictured in Exhibit 8-1. Thus, the effects of balancing have reduced the range of the regional effects by about one-third. In general, the relative order of the medians within ages remains the same after balancing. The exceptions are the reversals of the order of the Northeast and the Central regions at ages 9, 13, and Adult; however, in none of these comparisons were the differences, either before or after balancing, large enough to be statistically reliable. The most striking difference between the unadjusted and the balanced effects is the sharp reduction in the Southeast deficit. Apparently, a substantial part of the deficit observed in the unadjusted data grows out of the fact that the effects of other characteristics are represented in different proportions in the different regional samples. On the other hand, a significant Southeast deficit (minimal for age 13) still remains after balancing. Also remaining is the relatively high median effect for adults in the West.

The contrast between unadjusted and balanced effects presented in Exhibit 8-1 involves all the science exercises. In Report 4, the unadjusted effects were also examined in terms of groups of exercises classified according to the four science objectives and according to content, i.e., physical and biological science. The only instance in which the median effects for subgroups of exercises displayed a different picture from that pictured in the medians for all exercises was in the comparison between Objective 1 and Objective 2 exercises presented in Exhibit 3-5 of Report 4. In 11 of the 16 comparisons, the median for Objective 2 exercises was more extreme than the median for Objective 1 exercises. This contrast remains after balancing, as illustrated in Exhibit 8-2. However, the absolute differences tend to be smaller, as would be expected as a result of the general reduction in the size of the

EXHIBIT 8-1

MEDIAN EFFECTS FOR THE FOUR REGIONS
AT FOUR AGES BEFORE AND AFTER BALANCING.

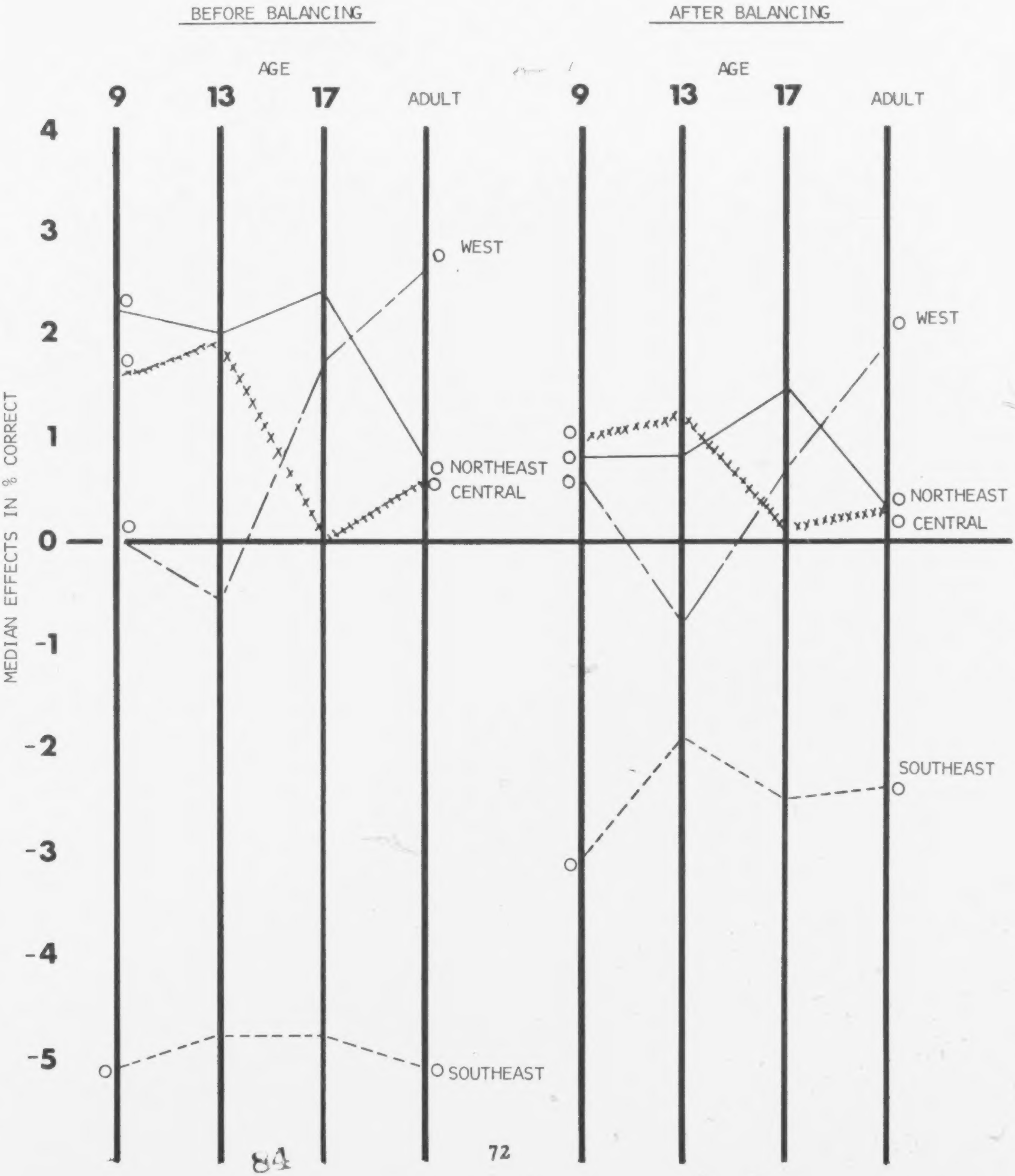

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Exhibit 8-2

Median effects, after balancing, for all exercises,
Objective 1 exercises only, and Objective 2 exercises only.
(Median effects, before balancing, for
all exercises, in parentheses)

Group	Age	All exercises	Medians for Obj. 1*	Medians for Obj. 2**	Comparison†
West	Adult	1.9 (2.4)	1.4	2.0	0.6 bigger
Northeast	17	1.5 (2.6)	1.2	1.9	0.7 bigger
Central	13	1.2 (1.9)	1.2	1.3	0.1 bigger
Central	9	1.0 (1.6)	0.7	1.5	0.8 bigger
Northeast	9	0.8 (2.3)	0.5	1.9	1.4 bigger
Northeast	13	0.8 (2.0)	0.4	2.1	1.7 bigger
West	17	0.7 (1.7)	-0.1	1.3	1.4 across zero††
West	9	0.6 (0.0)	1.0	-0.6	1.6 across zero††
Northeast	Adult	0.3 (0.6)	0.6	-0.5	1.1 across zero††
Central	Adult	0.3 (0.7)	0.1	1.6	1.7 bigger
Central	17	0.1 (0.0)	0.2	-0.1	0.3 across zero††
West	13	-0.8 (-0.5)	-0.7	-0.8	0.1 bigger
Southeast	13	-1.8 (-4.7)	-1.2	-4.2	3.0 bigger
Southeast	Adult	-2.4 (-4.9)	-2.2	-2.5	0.3 bigger
Southeast	17	-2.5 (-4.9)	-2.2	-3.1	0.9 bigger
Southeast	9	-3.1 (-5.1)	-3.3	-3.2	0.1 smaller††

*Objective 1 - Facts and principles
**Objective 2 - Abilities and skills

†Objective 2 compared to Objective 1

††Exceptions to the rule

effects. (The median of the absolute differences is 1.35% for the unadjusted median effects and 0.85% for the balanced median effects.)

The median effects presented in Exhibits 8-1 and 8-2 provide one way of viewing the results of balancing. As was true of our study of the unadjusted data, it is also instructive to examine not only the medians but also the distributions from which the medians are derived, to identify exercises falling so far toward the extremes of the distributions as to be considered atypical, and to ask whether or not it is possible to discover any systematic distinctions between exercises atypical above and those atypically below the median effects.

In the sections which follow, we report the results of these analyses, taking the regions in order Northeast, Southeast, Central and West and then comparing the balanced data reported here with the unadjusted data in Report 4.

Northeast

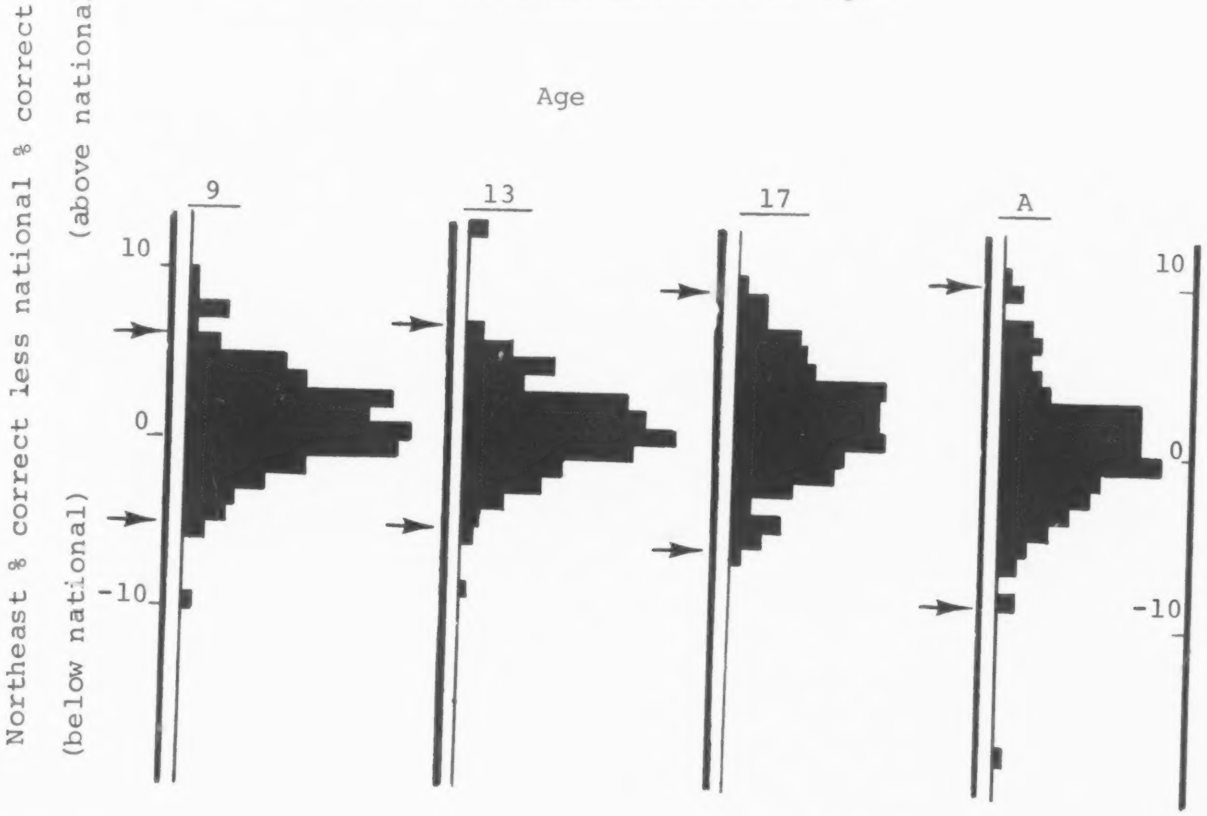
The distributions of balanced Northeast regional effects are presented in Exhibit 8-3. The exercises falling beyond the boundaries marked by the arrows on Exhibit 8-3 and so defined as atypical, are identified in Exhibit 8-4, together with percent correct for national, adjusted percent correct for the Northeast, and the percent difference.

In general, the picture presented by the balanced data for the Northeast is similar to that provided by the unadjusted data of Report 4. At ages 9, 13, and 17 the medians are about 1% above the national medians (0.8%, 1.5%) in contrast to median effects of about 2% for the unadjusted medians. These are small but statistically reliable effects. The median for Adults in the Northeast differ from Adults in the country as a whole. The same conclusion was reached on the basis of the median of the unadjusted effects (0.7%).

Of the 18 exercises identified as atypical, all but four were also identified as atypical in the distributions of unadjusted effects, and two of these were near the line marking atypical items in the unadjusted distributions. Six of the eight exercises classified under Objective 2 show an advantage for the Northeast. In contrast, only four of the nine exercises classified under Objective 1 show an advantage. In general, then, the summary statement of Report 4 applies also to atypical exercises after adjustment: "there appears to be a tendency for the Northeast to show an atypical advantage on a higher proportion of Objective 2 than of Objective 1 exercises."

Exhibit 8-3

Distributions of Northeast regional effects, balanced, for all science exercises at four ages



No. of Exercises	145	122	124	119
Median	0.8%	0.8%	1.5%	0.3%

Exhibit 8-4

Exercises showing atypical effects, balanced, for the Northeast for all ages

		% Correct			
Age	Exercise #	Northeast	Nat'l	% Difference	Content
9	R128*	64	55	9	Sun is a star
	R153*	46	38	8	Full sink would not explain faulty faucet
	U669*	59	52	7	
	U667*	70	63	7	
	U626*	79	72	7	
	U646	45	38	7	
	U676	47	41	6	
	R134	41	46	-5	Houseflies spread serious diseases
	R135*	33	38	-5	Effect of submerged rock on water level
	U635*	52	61	-9	
13	U760*	54	42	12	
	U758*	61	49	12	
	R224	28	33	-5	Matter behaves as if made of atoms
	R222*	30	38	-8	By natural selection, why giraffes have long necks
17	U861*	38	29	9	
	R339*	80	86	-6	Reason why car engine stops
Adult	R420*	54	44	10	Function of placenta in pregnant woman
	R441*	31	48	-17	Time a pendulum's swings

*Exercise also identified as atypical before balancing.

Note: — — — line separates atypical high from atypical low exercises.

Southeast

Distributions of balanced effects for the Southeast region are presented in Exhibit 8-5. Exercises showing atypical balanced effects for the Southeast are listed in Exhibit 8-6. As in the case of the Northeast samples, the balanced data for the Southeast tend to show a similar, if somewhat less extreme picture than the unadjusted data found in Report 4. Whereas the unadjusted median deficits were about 5%, the balanced median deficits are about 2.5%. The median balanced effects, therefore, are only half as large as the unadjusted median effects, but they are still large enough to indicate that performance in the Southeast tends to be below the national performance on science exercises.

Altogether, there are 26 science exercises identified as atypical after balancing, a number somewhat smaller than the 42 reported before balancing. Of the 26 exercises, 17 were identified as atypical before balancing and 9 were not. As in the case of the data for the Northeast, most of the fluctuations can be attributed to the influence of random sampling. There is, however, one difference between the lists of atypical exercises in the two reports worth noting. In report 4, we noted a difference in the relative frequency of exercises classified under Objective 2 exhibiting atypical advantage or disadvantage in the Southeast.

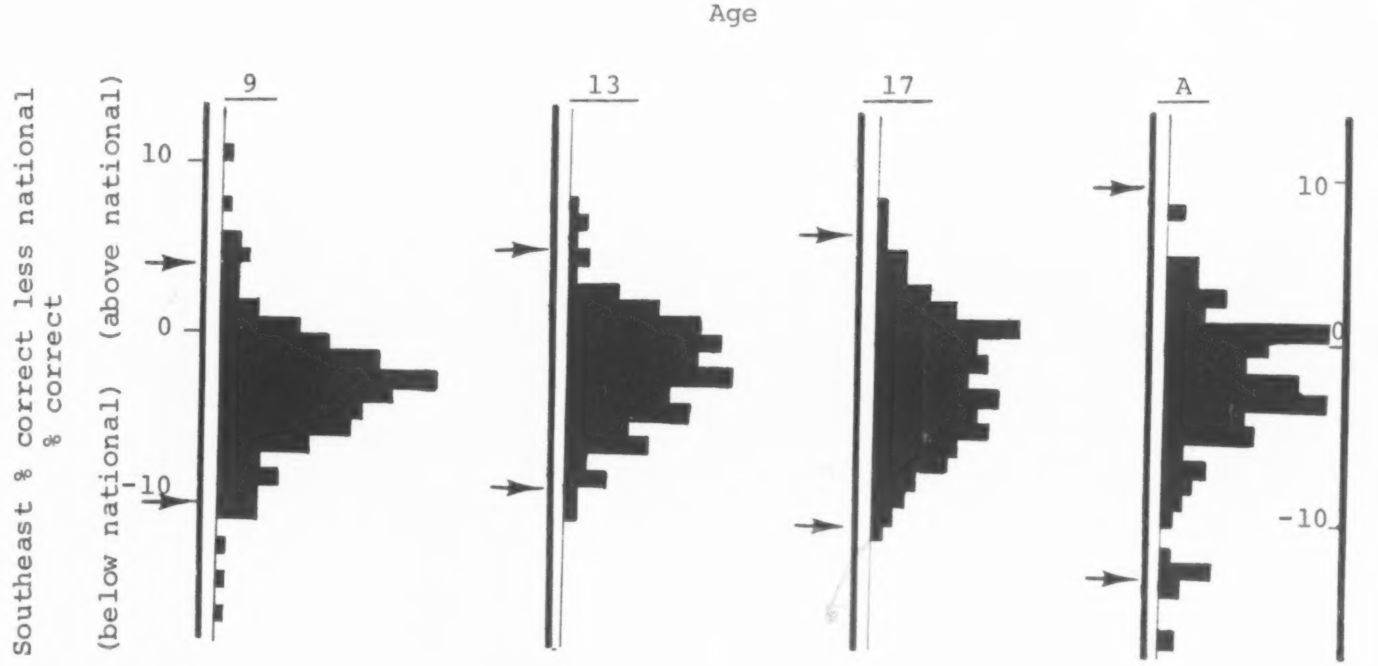
All nine of the Objective 2 exercises identified as atypical showed a disadvantage. In contrast, of the six Objective 2 exercises showing atypical effects for the Southeast after balancing, three show an advantage and three a deficit. Thus, the general tendency for Objective 2 exercises to show a greater disadvantage than Objective 1 exercises in the Southeast, as reported in Exhibit 8-2, cannot be attributed to the influence of a few atypical exercises; the effect must be a general one involving the Objective 2 exercises as a group.

Central

Distributions of balanced effects for the Central region are shown in Exhibit 8-7, and those exercises identified as atypical after balancing are listed in Exhibit 8-8. The medians at ages 9 and 13 are less extreme than before balancing (1.0% and 1.2% in contrast to 1.6% and 1.9%, but it is still possible to say, on the basis of the balanced data, that the Central region performs about 1% better than the nation as a whole at ages 9 and 13. At ages 17 and Adult, the changes as a result of balancing are small, a reasonable result in view of the fact that the effects before balancing were small.

Exhibit 8-5

Distributions of Southeast regional effects, balanced, for all science exercises at four ages



No. of Exercises	145	122	124	119
Median	-3.1%	-1.9%	-2.5%	-2.4%

Exhibit 8-6

Exercises showing atypical effects, balanced, for the Southeast for all ages

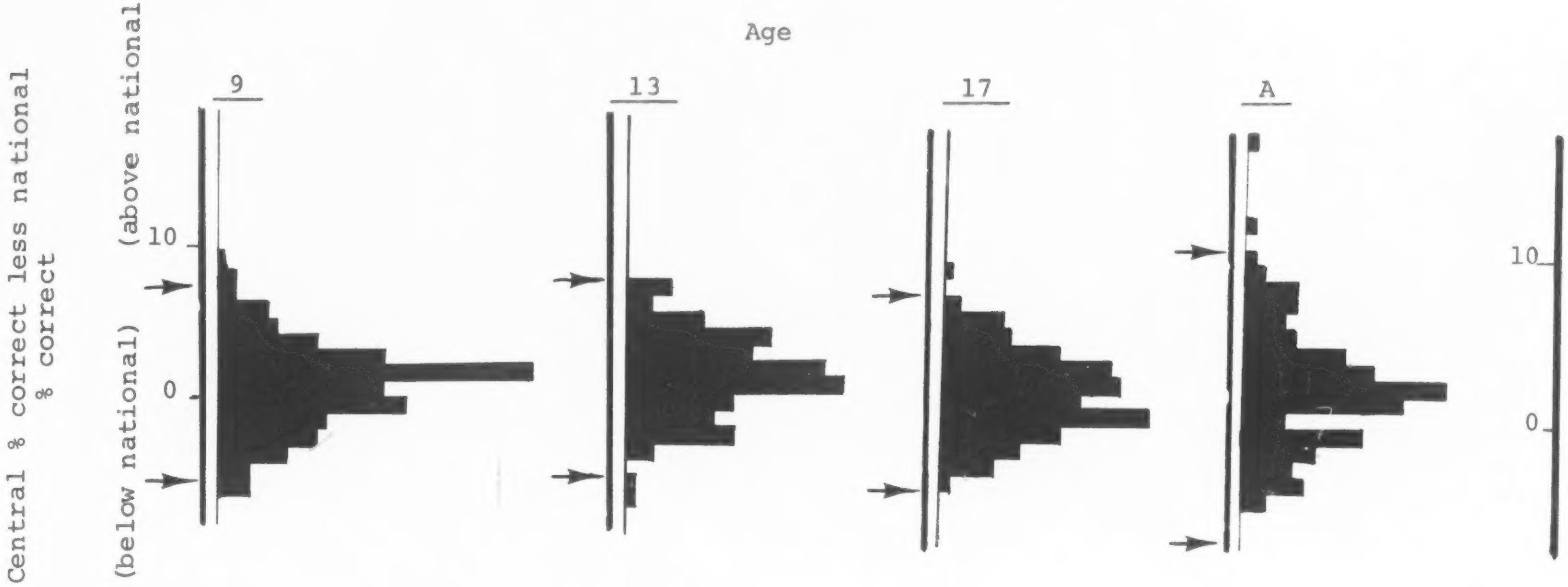
Age	Exercise #	% Correct		% Difference	Content
		Southeast	Nat'l		
9	R140*	24	14	10	Dead plants form coal
	U677*	40	33	7	
	U653*	26	21	5	
	U638*	61	56	5	
	R138*	39	35	4	Clearing skies follow cold front
	R154*	20	16	4	Water freezing point same as ice melting point
	R152	57	53	4	Because of vaccinations few people get smallpox
	U635	51	61	-10	
	R156*	69	79	-10	Recognize a scientific explanation
	R129	44	54	-10	Interpreting a thermometer reading
	R128	45	55	-10	Sun is a star
	U619	65	77	-12	
	U626*	58	72	-14	
	R123*	50	66	-16	What scientists learn from fossils
13	R217*	55	48	7	Burning gasoline in a car creates heat
	R227*	31	25	6	Center of memory is cerebrum
	U718	67	61	6	
	U738	45	40	5	
	R234*	53	62	-9	Balance beam--weight in pan; weight on hook
	U736	33	44	-9	
17	U816*	67	60	7	
	U840*	26	20	6	
	U861*	18	29	-11	
Adult	U960	15	29	-14	
	U920*	50	64	-14	
	U924*	39	56	-17	

*Exercise also identified as atypical before balancing.

Note: – – – line separates atypical high from atypical low exercises.

Exhibit 8-7

Distributions of Central regional effects, balanced,
for all science exercises at four ages



No. of Exercises	145	122	124	119
Median	1.0%	1.2%	0.1%	0.3%

Exhibit 8-8

Exercises showing atypical effects, balanced, for the Central for all ages

		% Correct			
Age	Exercise #	Central	Nat'l	% Difference	Content
9	U635*	69	61	8	
	R123*	73	66	7	What scientists learn from fossils
	R129	61	54	7	Interpreting a thermometer reading
	U640	48	53	-5	
	R126	54	59	-5	Center of Earth is hot
	R138*	30	35	-5	Clearing skies follow cold front
13	U758*	44	49	-5	
	U760*	36	42	-6	
17	U828*	46	39	7	
Adult	U960*	44	29	15	
	U962*	32	22	10	

*Exercise also identified as atypical before balancing.

Note: – – – line separates atypical high from atypical low exercises.

Of the 11 exercises identified as atypical and listed in Exhibit 8-8, five show a Central disadvantage and six a Central advantage. Eight were among the twelve exercises identified as atypical in the distributions of unadjusted effects in Report 4, and three appear as atypical here for the first time. Two of the four atypical exercises classified as Objective 2 show a positive effect and two a negative. Here, even more than in the case of the effects before balancing, the general impression is one of lack of pattern. Thus, we can only note that there are some large deviations from the median without proposing hypotheses to explain the deviations.

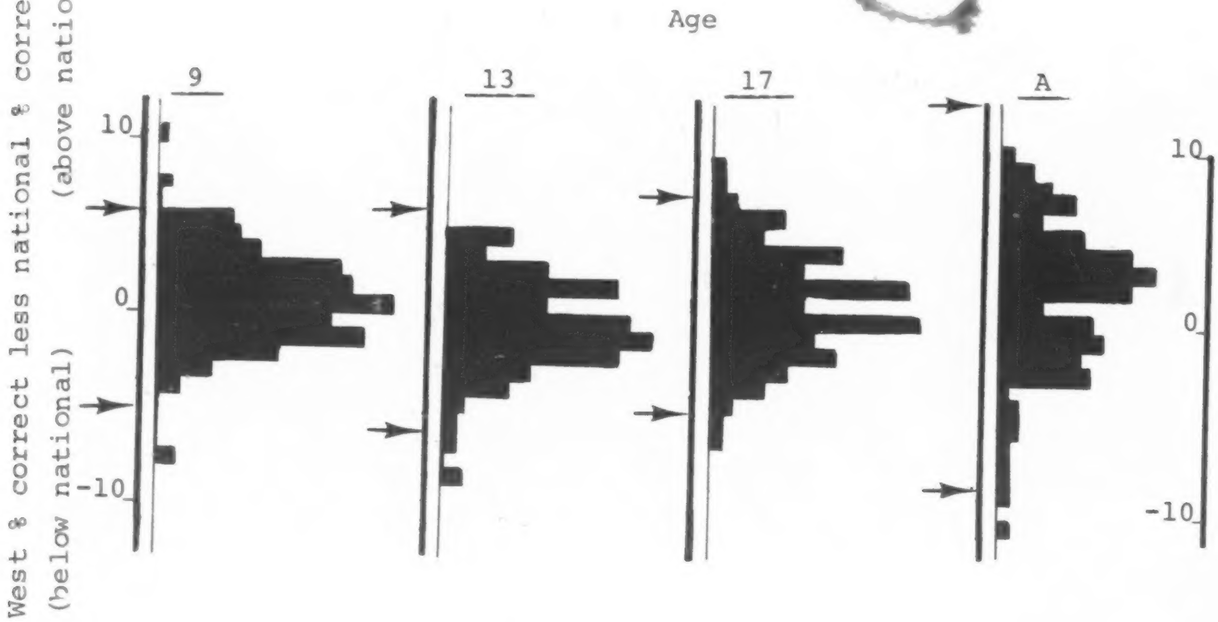
West

The distributions of balanced effects for the West are pictured in Exhibit 8-9 and the atypical exercises are listed in Exhibit 8-10. The balancing has reduced somewhat the median effects at ages 17 and Adult (from 1.7% and 2.6% before balancing to 0.7% and 1.9% after balancing), and when these percentages are compared with the estimates of fluctuations to be expected from sample to sample, it is no longer possible to say that the performance in the West is any better than that for the country as a whole. The medians at ages 9 and 13 were not reliably different from the national performance before balancing, and the same remark applies to the medians after balancing.

Of the 13 exercises identified as atypical after balancing, 11 were so identified before balancing. When the four exercises showing an atypical advantage for the West are compared with the nine showing an atypical disadvantage, we identified no meaningful contrasts in terms of content of exercises.

Exhibit 8-9

Distributions of West regional effects, balanced, for all science exercises at four ages



No. of Exercises	145	122	124	119
Median	0.6%	-0.8%	0.7%	1.9%

Exhibit 8-10

Exercises showing atypical effects, balanced, for the West for all ages

		% Correct			
Age	Exercise #	West	Nat'l	% Difference	Content
9	U640*	63	53	10	
	U647*	43	36	7	
	U667*	55	63	-8	
	U669*	44	52	-8	
13	U718	54	61	-7	
	U711*	68	76	-8	
	U728*	44	53	-9	
17	U854*	72	64	8	
	U814*	72	65	7	
	U862*	19	25	-6	
	U828*	32	39	-7	
Adult	R445*	1	11	-10	Find density of wood block using ruler and balance
	U960	17	29	-12	

*Exercise also identified as atypical before balancing.

Note: _ _ _ line separates atypical high from atypical low exercises.

Chapter 9

SEX DIFFERENCES AFTER BALANCING

Since the sexes are relatively well balanced across the other classifications, we do not anticipate and do not find any remarkable effects due to balancing. Exhibit 9-1 shows the medians for each age. Consequently, a discussion of the balanced sex differences must lead to the same general conclusions as those reached from discussion of the unadjusted sex differences, as given in NAEP Report 4. Accordingly, no further comments are necessary here.

Exhibit 9-1

Median sex differences for four ages, unadjusted and balanced

	Median difference:	Male minus female	
Age	Unadjusted	Balanced	Change
9	1.8	1.4	0.4
13	2.9	2.4	0.5
17	5.0	4.0	1.0
Adult	9.9	9.2	0.7

APPENDIX A

METHODS

This report presents unadjusted and balanced results at four ages (9, 13, 17, and young Adults) classified in several ways--unadjusted results: relative performance of Blacks relative to Non-Blacks, five different levels of parents' education, and seven levels of size-and-type of community balanced results: Males and Females, residents of four different geographic regions of the nation as well as the three unadjusted classifications mentioned above.* Our concern is to describe how well these groups of respondents perform on science exercises.

In the interest of clarity and ease, we want to make as few numerical comparisons as will adequately describe what we are to observe. When there are only two groups in a classification, as with sex divided into Male and Female, one numerical comparison will suffice. We need only compare one group with the other for each exercise. For sex we will use the difference

$$\begin{matrix}\text{Sex}\\ \text{Difference}\end{matrix} = \begin{bmatrix}\text{\% Success}\\ \text{For Males}\end{bmatrix} - \begin{bmatrix}\text{\% Success}\\ \text{For Females}\end{bmatrix}$$

For example, one exercise given at age 9 shows 76% of the Males and 68% of the Females responding successfully. Using the procedure above,

$$\begin{matrix}\text{Sex}\\ \text{Difference}\end{matrix} = 76\% - 68\% = 8\%.$$

Where there are more than two groups in a classification, such differences are not as simple to use. With four groups, such as four regions or four community sizes, simplicity is gained by comparing the percentage of success of respondents in each group with that in the nation as a whole. We shall call the number thus obtained an effect. One example would be

$$\begin{matrix}\text{Northeast}\\ \text{Effect}\end{matrix} = \begin{bmatrix}\text{Northeast}\\ \text{\% Success}\end{bmatrix} - \begin{bmatrix}\text{National}\\ \text{\% Success}\end{bmatrix}$$

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* See Report 4 for unadjusted results for Male-Female and geographic region.

For one exercise which 66% of 9-year-olds in the Northeast and 55% of all 9-year-olds answered successfully, the regional effect is

Northeast
Effect = 66% - 55% = 11%

What Should Be Described?

For people of the same age, when we compare the performance of a group--in a geographic region or from a size of community--with all people of that age in the country, the results are different for each exercise--different, but not too different. Even though some exercises show an advantage for the group, others a deficit, there is often a clear tendency for the exercises that we are considering as a whole to lean one way or the other. We describe this tendency by reporting the typical behavior of exercises.

Since not all exercises show the same advantage or deficit for the group, description of the typical behavior of all exercises in the class is usually not enough. We can learn something more from studying individual exercises for which the group advantage or deficit differs substantially from this typical behavior. If we use an appropriate rule to identify these atypical exercises, it will be worthwhile to mention each of them individually, telling something of their nature and reporting what advantage or deficit each shows when the group is compared with the whole country. This concentration on atypical exercises is particularly helpful because exercises showing close to typical behavior are often lacking in distinctive flavor. Atypical exercises, by contrast, often tell us something.

When we deal with the two sexes, we do the same things, except we shall compare Males with Females, rather than a group with the whole country, both in terms of typical behavior and in terms of atypical exercises.

Classes of Exercises

Another approach to the discussion of our results is possible because the science exercises may be separated into classes by some common feature. We may investigate the behavior of the exercises for each class, and then ask how this behavior changes from one class to another.

Only a few separations into classes are considered in this report. One of these is provided by content. Most exercises call on knowledge of either physical or biological science. Another classification is provided by the four science objectives.*

1. Know fundamental facts and principles of science;
2. Possess the abilities and skills needed to engage in the processes of science;
3. Understand the investigative nature of science;
4. Have attitudes about and appreciations of scientists, science, and the consequences of science that stem from adequate understandings.

Although other ways of classifying the exercises might be at least as useful in describing sex differences, regional effects, or community size effects, we have not found them.

What Shall Be Typical?

In the interest of simplicity and clarity, we choose to summarize the behavior of a set of exercises by the median (or midpoint) of the differences from national results. The median is a summary value such that an equal number of the values summarized lie on either side of it. For the 9-year-old sample --for instance, as in Exhibit 2-1, there were 145 exercises--72 exercises where the Black effect was greater than -14.5% and 72 exercises below -14.5%. Because equal numbers were more and less than -14.5%, we call -14.5% the median effect and use it to summarize all 145 effects for the Black group.

The median is an effective typical value because (1) it is easy to understand and (2) it is little affected by the presence or absence of unusual values.

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* Norris, Eleanor L. (Ed.) Science Objectives. Ann Arbor, Michigan: Committee on Assessing the Progress of Education, 1969.

What Shall be Atypical

Only a sample of each age group responded to each exercise, yet National Assessment results are concerned with whole populations--sometimes with all 9-year-olds in the country, sometimes with all 13-year-old boys, sometimes with all 17-year-olds in the Northeast, sometimes with all Adults in small cities and so on. Thus there must always be a step from sample to population in interpreting National Assessment results, allowing for the inescapable small differences between sample results and population facts. This inevitably raises statistical considerations--considerations which ought to guide our approaches, our exposition, and our statements without interfering excessively with the reporting and discussion of results.

The samples taken in National Assessment were well designed scientific probability samples. As a result, it would be possible to assess how large the differences between sample value and population value are likely to have been for almost any quantity we chose to calculate from the results--for example, a Black effect. Results of such calculations have guided the choices in this report of how large a departure from typical (medium) behavior qualifies an exercise for separate consideration. Appendix C discusses considerations involved in, and the exact nature of, this choice.

The chosen rule sets cutoffs determining which comparisons we call atypical. The cutoffs found by applying the chosen rule are shown by two arrows on each picture of the distribution of comparisons. Exercises corresponding to comparisons outside these cutoffs are discussed individually.

APPENDIX B

BALANCING

Purpose

This is the first of the NAEP reports to look at more than one characteristic of respondents at a time. We try to reduce the extent to which effects of one characteristic can masquerade as effects of another characteristic.

Proportionate Numbers Create No Problems

We first look at some simple examples of what can -- and, in appropriate circumstances, must -- happen. Assume that we are assessing the effects of one characteristic that classifies respondents into groups A, B and C and of another characteristic that classifies respondents into either group U or V. The two characteristics combined to form six combination subgroups, AU, AV, BU, BV, CU, CV. For our first set of examples, we assume that the numbers of respondents in each of these six subgroups are as shown in the upper left corner of Exhibit B-1. (The first three examples all use this same distribution of supposed observations.) Note that, for every group on the first characteristic (A, B and C), representation from group U stands in a fixed proportion to that from group V. Also note that we have proportionate numbers from groups A, B and C in both groups U and V.

In example 1, every U subgroup -- whether it is AU, BU or CU -- has 60% success, and every V subgroup -- whether it is AV, BV, CV -- has 40% success. Since the AU subgroup is of size 100 and has 60% success, it includes 60 successes (60% of 100). The numbers of successes for the other five subgroups are calculated similarly. To find the total number of successes for all of group U, we have only to add up the number of successes for each of the three subgroups in U, finding 60+120+180=360. Similarly, we add to find the total number of respondents in group U, 100+200+300=600. The unadjusted percentage of success in group U is then 360/600=60%. When we do the same for group V and, as well, for groups A, B, C (defined by the other characteristic), we find very satisfactory results. Group U has a percentage of success that is 12% better than the overall percentage of success, 48%. Group V has a percentage of success that is 8% poorer than the overall percentage of success. No difference appears among groups A, B and C. Thus, in this

Exhibit B-1

Some examples of simple behavior when the numbers of cases are proportional

Example 1

	# of cases			% of success			# of successes			
	U	V					U	V		
A	100	150	250	60%	40%	A	60	60	120	48%
B	200	300	500	60%	40%	B	120	120	240	48%
C	300	450	750	60%	40%	C	180	180	360	48%
	600	900	1500				360	360	720	
							60%	40%		48%

Example 2

	# of cases			% of success			# of successes			
	U	V					U	V		
A	100	150	250	40%	40%	A	40	60	100	40%
B	200	300	500	50%	50%	B	100	150	250	50%
C	300	450	750	60%	60%	C	180	270	450	60%
	600	900	1500				320	480	450	
							53.3%	53.3%		53.3%

Example 3

	# of cases			% of success			# of successes			
	U	V					U	V		
A	100	150	250	50%	30%	A	50	45	95	38%
B	200	300	500	60%	40%	B	120	120	240	48%
C	300	450	750	70%	50%	C	210	225	435	58%
	600	900	1500				380	390	770	
							63.3%	43.3%		51.3%

case, the percentages in the five marginal totals that correspond to simple unadjusted results are completely consistent with the percentages for the six subgroups that generate the data.

Example 2 shows how differences between A, B and C, given proportionate numbers in the subgroups, will appear as of the proper size when computed as above. In this example, the difference between U and V is zero.

Example 3 is a little more complex. It assumes that each U subgroup does 20% better than the corresponding V subgroup, but that there are also differences when we change from C to B or B to A. Again directly computing results from the groups (A, B, C, U, V) causes no trouble. The overall success is 51.3%. The percent of success for group A is 38%, that is, 13.3% below the total percent of success. The percent of success for group U is 63.3, that is, 12% above the total percent of success. And when we add together the three effects, we obtain the percent of success for the AU subgroup, i.e., 51.3% - 13.3% + 12.0% = 50%. The result of combining the effects for any of the other combinations is equally consistent. This consistency is something special; it depends essentially on the sizes of the six subgroups being proportional.

Disproportionate Numbers Can Make Trouble

We now turn to a different set of examples, where the numbers of respondents are not proportional within the categories. The upper left-hand corner of Exhibit B-2 shows the new pattern.

Example 4, shows the same pattern for percent of successes as Example 1 where there is no difference between A, B and C within levels U and V and equal differences between U and V at each level of A, B and C. Thus, in this example the marginal totals accurately reflect the difference between the U and V subgroups but they give quite an erroneous picture of the A, B and C effects. By examining the distribution of the number of cases it is evident that the marginal (unadjusted) ratio of successes to cases for category C is in actuality measuring the effect of V. Thus, in this example, one variable masquerading for another has affected the unadjusted estimates of the effects of the A-B-C categories. This would not be apparent if we had not simultaneously looked at both the A-B-C and U-V classifications. Given disproportionate numbers, the true difference between U and V both appears as itself and masquerades as differences among A, B and C.

Exhibit B-2

Some examples of simple behavior when the numbers are disproportionate

Example 4

	# of cases			% of success		# of successes			
	U	V				U	V		
A	100	100	200	60%	40%	60	40	100	50%
B	50	150	200	60%	40%	30	60	90	45%
C	0	200	200	60%	40%	--	80	80	40%
	150	450	600			90	180	270	
						60%	40%		45%

Example 5

	# of cases			% of success		# of successes			
	U	V				U	V		
A	100	100	200	40%	40%	40	40	80	40%
B	50	150	200	50%	50%	25	75	100	50%
C	0	200	200	60%	60%	--	120	120	60%
	150	450	600			65	235	300	
						43.3%	52.2%		50%

Example 6

	# of cases			% of success		# of successes			
	U	V				U	V		
A	100	100	200	50%	30%	50	30	80	40%
B	50	150	200	60%	40%	30	60	90	45%
C	0	200	200	70%	50%	--	100	100	50%
	150	450	600			80	190	270	
						53.3%	42.2%		45%

Example 5 shows how differences among A, B and C can masquerade as differences between U and V. Example 6 shows how each of two sets of real differences can both appear for themselves and masquerade as the other.

In none of these examples do we obtain the percent of success for the subgroups by combining the overall effect and the unadjusted group effects as we did when the numbers of cases were proportional. Thus, in Example 6, the overall percent of success is 45, the A effect is 5% lower and the U effect is 8.3% higher, and when we add we get 45% - 5% + 8.3% = 48.3%, not 50% as we would like. However, if we assume an A effect of -10%, a B effect of 0%, a C effect of +10%, a U effect of +15% and a V effect of -5%, then the combinations are consistent. For example, 45% - 10% + 15% = 50% for the AB combination and 45% + 10% - 5% = 50% for the CV combination. It has been possible, then, to find a set of effects that has removed the distortion due to disproportionate numbers in the subgroups, at least in this instance where the group effects are the same from one subgroup to another.

The Need

Disproportionate numbers in real population groups produce the problem that we have been discussing. For example, a larger fraction of Blacks are found both in the Inner City and in Rural Areas. Larger fractions of Blacks also have low parental education. When we look at the whole group of Black children, some of the deficit shown by the group comes from effects characterizing Inner Cities or Rural Areas and some from the effects of lower parental education.

We should do what we can to see through this sort of confusion. It was possible to adjust the data in Example 6 simply by inspecting the patterns of percentages for the six subgroups. These patterns, however, were based on hypothetical data. In real data there are often complex effects for combinations in the subgroups over and above the group effects. Furthermore, the hypothetical data of Example 6 involved only two characteristics. In real data there are often more than two characteristics involved, and the simple inspection technique that we used in finding the relationships in Example 6 will no longer work. There are, however, a number of ways to carry out computations that can help to reduce the distortion due to disproportionality. We next state the intended result of the calculation, then we say how we go about obtaining it.

A Balanced Fit

We intend to find group effects (expressed in percentages) that, when combined by addition with each other and with the overall percentage of success, give fitted percentages of success that correspond with the actual data in one simple way:

- --if we choose any group by a single characteristic, say group A in Example 6, and if we use the fitted percentages and the actual numbers of cases to calculate the number of successes for each subgroup that involves group A, and if we then add these calculated numbers of successes, the total number of successes over all subgroups will be the same as the total actually observed in the data.

Suppose, for example, that we have 600 cases distributed as in the upper left of Exhibit B-3 and that the total number of successes (270) is distributed among groups A, B, C, U, and V as shown in the upper right of Exhibit B-3. The overall percentage of success is 270/600 or 45%. Now, if we let A, B, C, U and V stand for the five group effects (in percentages), our definition of balancing says that the fitted number of successes in the AB subgroup may br represented by 100(45% + A + U), the fitted number of successes in the AV subgroup is 100(45% + A + V), and the number of fitted successes in both subgroups by the sum of these two. Moreover, the definition says that this sum must be equal to the number of successes actually observed, which is 80. Thus, we can write the equation 100(45% + A + U) + 100(45% + A + V) = 80. We can also write four other equations, two for the rows involving groups B and C and two for the columns involving groups A and U, as illustrated in the middle section of Exhibit B-3. If we try to solve these five equations for the five effects, however, we find that we are not able to obtain a unique solution. The equations are not independent since the three equations for the rows must sum to the overall total of 270 and likewise the two equations for the columns. We have only three independent equations, two for the rows and one for the columns, and we need two additional independent equations in order to find a single solution.

There is an additional requirement established by our definition. Overall, the effects of A, B and C must balance each other since all that is left is the overall effect; likewise, the effects of U and V must balance each other. This means that we can write two additional equations based on the numbers of cases in the margins of our table. These are:

Exhibit B-3

An example of the procedure used in obtaining a balanced fit

Example 7

# of cases

	U	V	
A	100	100	200
B	50	150	200
C	0	200	200
	150	450	600

# of succeses

	U	V	
A			80
B			90
C			100
	80	190	270

The representation of the fitted successes in the sub-groups

Sub-group	Representation
AU	$100(45\% + A + U)$
AV	$100(45\% + A + V)$
BU	$50(45\% + B + U)$
BV	$150(45\% + B + V)$
CU	0
CV	$200(45\% + C + V)$

Equations

Combination	
AU + AV	$100(45\% + A + U) + 100(45\% + A + V) = 80$
BU + BV	$50(45\% + B + U) + 150(45\% + B + V) = 90$
CU + CV	$200(45\% + C + V) = 100$
AU + BU + CU	$100(45\% + A + U) + 50(45\% + B + U) + 0 = 80$
AV + BV + CV	$100(45\% + A + V) + 150(45\% + B + V) + 200(45\% + C + V) = 190$
A + B + C	$200(A + B + C) = 0$
U + V	$150U + 450V = 0$

The solution

A effect = - 10%
B effect = 0%
C effect = + 10%
U effect = + 15%
V effect = - 5%

$$150(45\% + U) + 450(45\% + V) = 270$$

and

$$200(45\% + A) + 200(45\% + B) + 200(45\% + C) = 270$$

and these reduce to

$$150V + 450V = 0$$

and

$$200A + 200B + 200C = 0$$

If we then use these two last equations along with any two of the three equations based on the rows and any one of the two equations based on the columns, we have five independent equations and five unknowns that can be solved for the five unique balanced effects. The solution gives the values in the lower part of Exhibit B-3, and it is observed that the solution is the same as we obtained in Example 6.

It is easy to look at this example and say, "Ah, I see. This example is the same as Example 6, and the balanced fit reproduces the number of successes in each subgroup exactly". Notice, however, that in Example 7 there are no numbers of successes given for the subgroups. It is true that the balanced fit of Example 7 does produce an exactly matching fit to the actual data of Example 6, but it is also a balanced fit to data that have different frequencies of success in the subgroups. Exhibit B-4 shows several patterns of successes all having the same balanced fit.

Balancing does not remove all the complications from the data. It does strip off the concealment involved in masquerades caused by disproportionate numbers.

More General Cases

We have considered only two characteristics, one with two groups, the other with three. The same technique extends to more groups. Extensions to more characteristics involve more complicated equations, but the interpretations are equally straightforward, so long as we realize that what we balance are the number -- or equivalently the percents -- of success for all groups defined by any single characteristic (and not necessarily for any subgroup defined by two or more characteristics).

If, as in this report, we balance
-- sex, two groups
-- color, three groups (including unascertained)
-- region, four groups
-- education, five groups (including unascertained)
-- size and type of community, seven groups

we have taken a long step to reduce masquerading. But it

Exhibit B-4

Examples of possible observations leading to the same balanced fits

The pattern of number of cases (for all examples)

	U	V	
A	100	100	200
B	50	150	200
C	0	200	200
	150	450	600

Some alternative patterns of numbers of successes

	U	V	
A	50	30	80
B	30	60	90
C	--	100	100
	80	190	270

	U	V	
A	40	40	80
B	40	50	90
C	--	100	100
	80	190	270

	U	V	
A	70	10	80
B	10	80	90
C	--	100	270
	80	190	270

	U	V	
A	80	0	80
B	--	90	90
C	--	100	100
	80	190	270

Remark

Since the numbers of successes for the A, B, C, U, V single-characteristic groups are 80, 90, 100, 80, 190 for each of the four examples, the fit of Exhibit B-3 is a balanced fit for each pattern.

would be wrong to think that we have gone the whole way, for:

- -- we have not yet used all, merely most, of the characteristics that were collected
- -- we have only used these characteristics in a rather limited way (we could have used more than four regions, more types of communities, final classifications of years of school completed, for instance)
- -- we know that the overt characteristics are less than perfect measures of the variables that should concern us (years of school is a less-than-perfect measure of parental education, which is itself a less-than-perfect measure of either home attitude toward education or available aid in homework)
- -- there are other characteristics of importance, e.g., economic status, that were not measured.

The deficiencies of balancing are clear; it cannot be the final answer. But the step from unadjusted comparisons to balanced ones is a long step from outward appearance toward -- toward, not to -- inward realities. The problem facing the schools is usually better shown by unadjusted values; the effectiveness of the educational process for a group is often better indicated by balanced results.

APPENDIX C

CHOOSING THE CUTOFFS

Our observed percentages of success are based on samples, but our interest is in whole populations. Thus our information is always less than complete. As a result, conclusions stated either in numbers or in words are approximate rather than exact, slightly blurred rather than sharp. Whatever rule we choose to fix the cutoffs, and thus to decide which comparisons are atypical and worth serious consideration, the performance of that rule will be less than perfect.

However we choose a cutoff rule, there will be some chance that an exercise whose population value is typical or close to typical will have a sample value classed as atypical by our rule. The more one tries to avoid this by stiffening the rule, thus calling fewer exercises atypical, the more often sample values will fail to be recognized as atypical when their population values are far from typical. This is a general problem that arises whenever sample results (including differences and effects) are examined in detail.

In choosing a rule, we must take account of these two kinds of unfortunate consequences. We may also need to consider what sizes of differences or effects are likely to be practically meaningful. Besides discussing individual exercises, we want to discuss the groups of exercises found atypical in a given direction. Our choice of cutoffs affects our ability to descrive such groups. The rule whose details are given below was chosen with some attention to all these considerations.

Variances and Standard Errors

The samples drawn for the first assessment, both in and out of school, involved careful designs in which the country was divided into areas called strata. For each exercise, results were obtained for two groups of respondents in each stratum.*

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* The two groups come from two "primary sampling units" in each stratum. (See Appendix C of NAEP Report No. 1.) Because of the existence of planned half strata and the loss of some primary sampling units, losses that were duly allowed for in the estimation procedure, it was necessary to "collapse" a few pairs of strata by combining two original strata in one stratum for the purpose of assessing sampling variability.

To assess sampling variability, it is necessary to estimate a suitable measure of how far the results of the 1969-70 administration of a science exercise would have varied had different groups of respondents been selected in any or all strata. Our concern has to be with other possible selections according to the same random procedures used in the actual administration.

In this situation, the use of two groups of respondents per stratum allows us to calculate an estimate of such a measure of variability, the sampling variance, defined as the average squard of the difference in result between a single administration and the average result for all possible administrations.

In this report, our immediate concern is with the *estimated sampling variance* of sex differences, regional effects, and size-of-community effects. It is equally useful to look at the *standard errors* of these comparisons, defined as the squard roots of the estimated sampling variances.

These estimated sampling variances or standard errors will vary from one exercise to another for several reasons, including:

1. Different sample sizes for some exercises. (The time-consuming apparatus exercises were given to fewer respondents. Certain other exercises were excluded in a few jurisdictions. Shortness of class periods occasionally caused omission of later exercises.)

2. The automatic decrease in variance accompanying very easy or very hard exercises.

3. Larger or smaller differences in the sizes of actual school-to-school differences. (In some cases these presumably reflect the greater or lesser effect or extent of curriculum variations.)

4. Sampling variations inevitable in the process of estimating sampling variability.

For reference, Appendix E presents estimated standard errors for effects, both unadjusted and adjusted, for each science exercise classified by objective.

Kinds of Cutoffs

If we wanted to look at results only for individual exercises, it would be natural to compare each deviation (whether from zero or from a typical comparison) with a suitable multiple of the standard error available for that deviation. Doing this would correspond, in terms of cutoffs, to using a separate cutoff for each exercise. This would have been quite possible by using the estimated standard errors given in Appendix E. However, it was felt that this would involve more details and complications than would be warranted by the likely gains. (The interested reader can use Appendix E as a basis for his own experiments with this type of analysis.)

Instead, the choice was to use a single pair of cutoffs for each class of exercises considered in the report. To do this, it was necessary to combine standard errors or estimated sampling variances across exercises. For this purpose, it is appropriate to use a combined standard error, which is the square root of a combined estimated sampling variance, this latter being the arithmetic mean of the estimated sampling variances for the exercises involved.

Size of Cutoffs

The easiest way to use the combined standard error to fix the cutoffs is to start from the corresponding median and lay off a suitable multiple of the combined standard error on either side. If the multiple is large, very few exercises will be falsely called atypical, but we will fail to take advantage of the information provided by intermediate deviations.

There are circumstances under which we might be able to make good use of quite small multipliers, even fractions. When comparing one subclass of exercises well below the median with another subclass of exercises well above the median, larger subclasses could be helpful, so helpful as to outweigh the fact that a substantial fraction of each subclass would fall in that subclass purely by accident.

A multiplier of about 2 is conventional for many purposes. This choice leads to about 5% of all items entering one distinctive subclass or the other purely by chance. Since we deal with classes of about 120 exercises (and since 5% of 120 is six), this would mean an average of about 3 "atypically high" exercises and about 3 "atypically low" exercises purely by chance. Thus this choice seemed more likely to confuse the picture than to clarify it.

Another practical detail should concern us. Our exhibits show only the integer percentage for a difference or effect. Thus all comparisons between 3.0 and 3.9 are shown as 3, for example, if our cutoffs are to be simply related to our pictures, they should fall at the end of such a range. (A cutoff between 2.9 and 3.0 or one between 3.9 and 4.0 is easily pictured and used. One between 3.4 and 3.5, or at 3.74, is not.)

As a result, it was decided to set the cutoffs in the following way:

1. start from the median comparison for all the exercises involved,
2. move up and down distances equal to 2.5 times the combined standard error,
3. move further in each direction until the cutoff divides one integer-percent range from the next.

Thus if the median were -1.7% and the combined standard error were 1.9%, we would find first

$(2.5)(1.9\%) = 4.75\%$

then

$-1.7\% - 4.75\% = -6.45\%$ and $-1.7\% + 4.75\% = 3.05\%$

and then place the arrows between the intervals

-7.9 to -7.0 and -6.9 to -6.0

on the low side and between the intervals

3.0 to 3.9 and 4.0 to 4.9

on the high side (i.e., locate the whole percentage interval containing the computed cutoff point, then place the cutoff arrows at the point dividing that interval from the adjusted interval furthest from the median.)

For each class of rather more than 100 exercises, an average of perhaps one or two exercises can be expected to fall outside these cutoffs because of sampling fluctuations. (The smaller sample sizes for apparatus exercises can increase these numbers somewhat.) A substantial number of exercises that we might have liked to consider atypical will of course fail to be recognized as such. Some such compromise is, however, necessary.

APPENDIX D

DEFINITION OF TERMS

The major reporting categories used in this report are: Age, Region, Size and Type of Community (STOC), Sex, Color, and Parents' Education.

1. Age: Four age levels were assessed. Three of these were in-school--9,13, and 17-year-olds; and two--17s and young Adults--were out-of-school, sometimes referred to as the household sample. The criteria used or the operational definitions of the four ages are as follows:

    9s--Born between 1/1/60 and 12/31/60
    13s--Born between 1/1/56 and 12/31/56
    17s--In-school: Born between 10/1/51 and 9/30/52
    Out-of-school: Born between 10/1/50 and 9/30/51 and not enrolled in school in March '68 OR born between 10/1/51 and 9/30/52 and not enrolled in school in March 1969.
    young Adults--Born between 7/1/33 and 6/30/43

2. Region: Four geographical regions are being used for all age levels--Northeast, Southeast, Central and West. The states falling in each of these four regions, for reporting purposes, are as follows.

Northeast	Southeast	Central	West
Del.	Ala.	N.D.	Hawaii
Maine	Ark.	S.D.	Alaska
N.H.	Fla.	Iowa	Idaho
Vt.	Ga.	Kansas	Mont.
D.C.	Ky.	Minn.	Wyo.
Md.	La.	Mo.	Utah
N.J.	Miss.	Neb.	N.M.
N.Y.	N.C.	Ill.	Nev.
Conn.	S.C.	Ind.	Cal.
Pa.	Tenn.	Mich.	Ore.
Mass.	Va.	Ohio	Wash.
R.I.	W. Va.	Wis.	Ariz.
			Colo.
			Tex.
			Okla.

This classification is that used by the Office of Business Economics, Department of Commerce; the names for regions used by the OBE differ from National Assessment names for three regions:

National Assessment	OBE
Northeast	Northern Atlantic
Southeast	Southeast
Central	Great Lakes and Plains
West	West and Northwest

3. Size and Type of Community (STOC): Previous National Assessment reports have given results for four sizes of community (SOC): Big Cities, Urban Fringe, Medium Size Cities, and Smaller Places. These are defined in National Assessment Reports 4, 5, and 6. This (Report 7) and subsequent reports integrate three "extreme types of community," each composed of approximately 10% of the population, with four sizes of community representing the remaining 70% of the population into a seven-category STOC classification.

   NOTE: The four "size of community" categories within the STOC classification are not equivalent to the four "size of community" categories within the SOC classification used in previous reports since the latter did not have the three "extreme types of community" extracted from them.

   The definitions of the extreme types of community were derived from an occupation question for both the in-school and out-of-school samples (see Exhibit D-1).

   By classifying schools rather than counties, it was possible to identify much more uniform groups. One extreme group was selected in each of the three directions indicated by the exploratory analysis: (1) schools where high proportions were factory or professional workers, (2) city schools where a high proportion of parents were either not regularly employed or on welfare, and only a low proportion were professional or managerial, (3) near-city and city schools where a high proportion of parents were professional or managerial and only low proportions were factory or farm workers, not regularly employed or on relief.

   Smaller extreme groups would have been more extreme; larger extreme groups would have had better determined

Exhibit D-1

Correspondence between in- and out-of-school occupation categories

Principal's questionnaire categories	Code	Out-of-school and adult categories (from DS Manual)
Professional or managerial personnel	A	Professional, technical, and kindred Managers, officials, proprietors (except farm)
Sales, clerical, technical, or skilled workers	B	Clerical and kindred Sales workers Craftsmen, foremen, and kindred
Factory or other blue collar workers	C	Operative and kindred Service workers, private household, and other Other laborers
Farm workers	D	Farmers and farm managers Farm laborers and foremen
Not regularly employed	E	Unemployed
On welfare	F	
	00	Unclassified

percentages of success. The sizes of the three extreme groups, close to 10% of all those assessed, were chosen as a compromise between more extremeness and better determination. (Capital letters, below, represent codes for categories in Exhibit D-1.)

STOC 1. Extreme Rural: D - (C + 2A) in %. This category represents 9.6% of all respondents extracted from three of the four old SOC categories as follows:

Urban Fringe: 0.4% -- Population less than 3,500 and all counties near a big city within the same Standard Metropolitan Statistical Area (SMSA).

Medium Size City: 1.7% -- Population less than 3,500 and all counties within the same SMSA as a Medium Size City and not in a Big City county.

Smaller Places: 7.5% -- Population less than 3,500.

STOC 2. Extreme Inner City: (E + F) - A in %. This category represents 9.9% of all respondents extracted from three of the four old SOC categories as follows:

Big City: 8.5% -- Population greater than 200,000 and low Socio-Economic Status (SES) within the city limits.

Urban Fringe: 0.5% -- Population greater than 150,000 and low SES near a big city and within the same SMSA.

Medium Size City: 0.9% -- Population from 150,000 to 200,000 and low SES within the same SMSA as a city with a population from 150,000 to 200,000.

STOC 3. Extreme Affluent Suburb: A - (C + D + E + F) in %. This category represents 10.0% of all respondents extracted from three of the four old SOC categories as follows:

Big City: 2.9% -- Population greater than 200,000 and high SES within the city limits.

Urban Fringe: 5.4% -- Population greater than 150,000 and high SES near a big city

and within the same SMSA.
Medium Size City: 1.7% -- Population from 150,000 to 200,000 and high SES within the same SMSA as a city with a population from 150,000 to 200,000.

STOC 4. Inner City Fringe: This category represents 11.8% of all respondents and replaces the old Big City category. Population greater than 200,000 and middle SES within the city limits.

STOC 5. Urban Fringe: This category represents 16.7% of all respondents and replaces the old Urban Fringe category. Population from 150,000 to 200,000 and middle SES; population from 3,500 to 150,000 and all SES's.

STOC 6. Medium-Size City: This category represents 21.4% of all respondents and replaces the old Medium-Size City category. Population 150,000 to 200,000 and middle SES; and all SES's in the same SMSA containing a city with a population from 25,000 to 200,000.

STOC 7. Small City: This category represents 20.7% of all respondents and replaces the old Smaller Places category. Population between 3,500 and 200,000 and all SES's.

4. Sex: Data are reported for Males and Females.

5. Color: Data are reported for Blacks and Non-Blacks. Color classification was based on observation of the respondent at the time of the administration by the field staff member who administered the package.

6. Parents' Education: All data are reported in terms of the highest level of education of either parent of guardian of a 17-year-old respondent. Parents' Education is reported as follows:
   - Level 1. Less than or equal to 8th grade
   - Level 2. More than 8th grade but not a high school graduate
   - Level 3. Graduated from high school
   - Level 4. Some formal education beyond high school

APPENDIX E

NATIONAL PERCENTAGES OF SUCCESS, EFFECTS AND STANDARD ERRORS FOR REGION, SEX, SIZE AND TYPE OF COMMUNITY (STOC), COLOR AND PARENTS' EDUCATION--UNADJUSTED AND BALANCED--FOR RELEASED AND UNRELEASED EXERCISES BY OBJECTIVE

Data on the percentage of success, effects, and standard errors of effects (unadjusted and balanced) for each Science exercise are shown for the four ages--9, 13, 17 and Adult . Within each age group they are identified as released or unreleased exercises by a three-digit number preceded by an R (released) or a U (unreleased) as follows:

Age	Released	Unreleased
9	R100's	U600's
13	R200's	U700's
17	R300's	U800's
Adult	R400's	U900's

(All released exercises are reproduced in NAEP Report 1.)

The exercises are listed acording to Objective 1 first, followed in turn by exercises for Objectives 2, 3 and 4. For each objective, the released (unreleased) exercise numbers are assigned in order from highest to lowest percentage of National success. Thus, within each age the exercises are divided into two main groups--released and unreleased--with the exercises listed in order of decreasing National success within each objective.

In this appendix, the first line corresponding to each exercise shows the identifying number, National percentage of success, and for released exercises, a short description of the exercise content. The next four lines show the unadjusted effects and standard errors and the balanced effects and standard errors, respectively, for the five classifications of respondents included in this report (Region, Sex, STOC, Color and Parental Education). Exercises which overlap other exercises at other ages are listed in Appendix C of Report 4. Identification of physical and biological science classifications are also included in Appendix C of Report 4.

NATIONAL PERCENTAGE OF SUCCESS, AND EFFECTS FOR REGION, SEX, STOC, COLOR AND EDUCATION FOR RELEASED AND UNRELEASED SCIENCE EXERCISES GROUPED BY OBJECTIVE.

AGE 9

OBJECTIVE: Know the fundamental facts and principles of science.

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: R101 NATL % 93.6 A human baby comes from its mother's body.																					
UNADJ EFFECT	1.9	-7.1	2.6	1.2	0.3	-0.3	-6.4	-7.4	2.6	2.0	2.8	-0.2	-1.1	2.2	-10.6	-5.9	-4.6	-2.8	-0.1	3.1	-1.5
STD ERROR	1.2	1.8	0.9	1.2	0.8	0.8	4.6	3.5	2.6	1.7	1.1	1.0	1.7	0.5	2.3	2.8	4.7	2.7	1.0	0.8	0.9
BAL EFFECT	0.7	-5.2	2.0	1.5	0.1	-0.1	-3.0	-1.0	0.3	1.6	0.8	0.1	-0.5	1.8	-7.5	-6.7	-2.5	-2.0	-0.1	2.1	-1.1
STD ERROR	1.2	1.8	0.9	1.2	0.7	0.7	3.4	3.6	2.7	1.6	1.1	1.0	1.6	0.4	2.8	2.5	3.8	2.7	1.0	0.7	1.0
EXER: R102 NATL % 92.8 A stick needs to be dry in order to burn.																					
UNADJ EFFECT	1.1	-7.5	2.1	1.9	0.3	-0.3	-7.0	-12.9	-1.3	1.5	3.1	2.8	0.9	2.5	-12.3	-6.8	-6.5	-0.8	1.6	3.1	-2.9
STD ERROR	1.1	1.8	1.1	1.0	0.5	0.5	3.1	3.2	3.0	1.6	1.0	1.0	1.3	0.4	2.0	2.9	3.7	1.8	0.9	0.8	1.0
BAL EFFECT	-0.0	-5.5	1.7	2.1	0.4	-0.5	-5.0	-6.9	-1.7	1.9	0.3	2.4	1.5	1.7	-8.4	-4.9	-4.8	1.5	1.2	2.1	-2.4
STD ERROR	1.0	1.5	0.9	1.0	0.5	0.5	2.9	3.7	2.4	1.6	1.0	0.8	1.1	0.4	2.0	2.5	3.5	1.8	0.9	0.7	0.9
EXER: R103 NATL % 92.4 Teeth are brushed to keep them from decaying.																					
UNADJ EFFECT	1.1	-3.8	1.3	0.6	-0.9	0.8	-5.2	-11.4	1.7	-2.7	3.5	-0.4	1.4	2.4	-10.5	-8.3	-10.4	-3.8	2.3	3.0	-2.2
STD ERROR	1.1	1.6	1.2	1.2	0.5	0.5	5.1	4.2	2.1	3.1	1.4	1.4	1.3	0.5	2.1	3.1	6.9	3.1	1.0	0.9	0.9
BAL EFFECT	-0.1	-2.1	0.5	1.3	-1.1	1.0	-2.0	-4.4	-0.2	-2.1	1.9	-0.7	1.3	1.8	-7.8	-7.0	-8.5	-3.2	2.1	2.3	-1.8
STD ERROR	1.1	1.2	1.3	1.2	0.5	0.5	3.2	4.6	2.5	2.8	1.4	1.3	1.0	0.5	2.1	3.3	6.1	2.9	1.0	0.9	0.9
EXER: R104 NATL % 91.3 Iron cannot be burned in an ordinary fire.																					
UNADJ EFFECT	2.8	-3.3	1.6	-2.0	-0.7	0.8	-0.0	-28.0	7.3	-1.4	-0.6	2.4	1.9	3.8	-15.7	-21.0	-13.0	-0.0	1.8	3.4	-3.5
STD ERROR	1.4	2.1	1.3	1.8	0.6	0.6	3.7	3.7	0.9	3.0	1.5	1.5	1.2	0.6	3.0	4.3	4.6	2.3	1.2	0.8	1.1
BAL EFFECT	2.5	-3.1	-0.1	0.4	-0.8	0.8	2.2	-18.4	4.0	-0.6	-2.1	1.6	2.4	2.6	-10.8	-14.1	-8.8	0.3	1.7	2.0	-2.4
STD ERROR	1.0	1.3	1.1	1.4	0.6	0.6	2.2	3.4	0.8	2.9	1.5	1.2	1.2	0.4	2.5	3.8	4.0	2.1	1.1	0.7	0.9
EXER: R105 NATL % 90.4 Bees get their food (nectar) from flowers.																					
UNADJ EFFECT	0.2	-4.9	2.4	1.5	0.2	-0.2	-1.1	-22.5	6.9	-4.2	4.3	-1.3	3.2	3.4	-20.3	-7.3	-11.0	1.3	1.6	4.0	-4.5
STD ERROR	1.6	2.2	1.3	1.4	0.6	0.6	3.9	3.4	1.2	2.7	1.4	1.7	1.5	0.7	2.5	3.4	3.2	2.5	1.2	0.9	1.2
BAL EFFECT	-1.0	-1.8	0.8	1.7	-0.2	0.2	0.4	-13.4	4.3	-3.0	2.7	-1.4	2.2	2.5	-15.2	-4.4	-8.4	3.1	1.6	2.5	-3.4
STD ERROR	1.3	1.4	1.1	0.9	0.6	0.6	2.4	3.0	1.2	2.3	1.2	1.3	1.4	0.6	2.5	3.6	3.2	2.5	1.0	0.8	1.0
EXER: R106 NATL % 88.6 Thick dark-gray clouds are more likely than others to bring rain on a summer day.																					
UNADJ EFFECT	0.9	-3.9	3.6	-1.7	1.3	-1.3	-9.2	-18.1	4.0	-4.8	5.0	2.0	2.1	3.3	-19.4	-7.6	-11.2	-0.3	-0.7	3.8	-2.5
STD ERROR	1.5	2.3	1.4	1.7	0.8	0.8	3.2	3.5	2.3	3.4	1.6	1.5	1.6	0.7	2.3	3.8	4.4	2.8	1.4	1.0	1.5
BAL EFFECT	-0.9	-0.3	2.8	-2.0	1.0	-1.0	-7.8	-9.4	1.4	-3.7	4.0	1.6	1.0	2.3	-15.1	-2.8	-8.4	1.9	-0.8	2.5	-1.7
STD ERROR	1.3	1.6	1.3	1.5	0.7	0.7	3.5	3.4	2.5	2.7	1.6	1.1	1.5	0.6	2.8	3.9	4.4	2.7	1.4	0.9	1.3

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EXER: R107  NATL % 88.3    Soaking with water is generally a good way to put out a wood fire.

UNADJ EFFECT        0.6   -1.5    2.7   -2.3    2.4   -2.4   -2.4  -15.0    2.7   -0.1    1.0    0.3    2.8    2.7  -12.9  -12.0   -2.2   -5.3    1.1    1.9   -1.8
STD ERROR           1.7    2.4    1.6    1.8    0.8    0.8    3.1    4.1    3.1    2.6    1.7    2.1    2.2    0.6    2.8    3.2    3.7    3.4    1.5    0.9    1.3
BAL   EFFECT       -0.3    0.4    1.3   -1.5    2.2   -2.3   -0.8   -7.1    0.4    1.4   -0.0   -0.3    1.8    2.3  -11.0   -9.6   -0.3   -4.1    0.6    0.9   -0.7
STD ERROR           1.5    2.1    1.4    1.6    0.9    0.9    2.6    4.4    3.0    2.3    1.5    1.8    2.0    0.6    2.7    3.7    3.6    3.3    1.4    0.8    1.2

EXER: R108  NATL % 87.6    Protein is important in building good muscle.

UNADJ EFFECT        2.8   -4.3    3.1   -3.6    0.7   -0.9  -13.2  -18.2    7.2   -2.8    4.6    0.1    0.3    2.8   -9.9  -16.6   -9.0   -0.4    2.7    5.2   -5.4
STD ERROR           1.3    2.5    1.3    1.7    0.7    0.8    7.7    3.2    2.3    4.0    1.4    1.4    1.7    0.6    2.4    4.1    4.8    2.1    1.5    1.0    1.1
BAL   EFFECT        0.8   -1.3    1.2   -1.5    0.5   -0.6  -11.2  -11.5    4.8    0.6    3.5    0.2   -0.9    1.7   -4.9  -12.1   -6.5    2.1    2.8    3.3   -4.4
STD ERROR           1.2    1.9    1.1    1.3    0.7    0.8    7.8    3.5    2.4    2.9    1.6    1.4    1.5    0.6    3.4    3.9    4.3    2.3    1.5    0.9    1.0

EXER: R109  NATL % 86.3    Nearly all rocks are solid.

UNADJ EFFECT        1.2   -6.0    6.1   -3.4   -0.4    0.5  -19.0  -14.3    7.2   -2.6    0.0    2.9    5.3    5.0  -22.6  -21.7  -10.7  -11.3    1.3    6.7   -4.5
STD ERROR           1.9    2.5    1.6    2.7    0.8    0.9    5.8    3.0    2.3    3.6    2.6    2.0    1.8    0.9    2.5    6.5    4.9    4.2    1.1    1.1    1.3
BAL   EFFECT       -1.5   -3.3    5.3   -1.8   -0.8    0.9  -11.2    0.4    2.4    0.6   -3.5    1.4    4.5    4.2  -20.3  -16.4   -7.3   -6.0    1.5    4.6   -4.0
STD ERROR           1.6    1.5    1.3    1.5    0.7    0.8    3.8    3.6    2.1    2.6    2.5    1.4    1.5    0.9    2.7    5.3    4.1    3.8    1.1    1.0    1.0

EXER: R110  NATL % 85.3    Map reading: an island is completely surrounded by water.

UNADJ EFFECT        0.5   -2.7    0.5    1.4    1.2   -1.3   -6.6  -20.4    8.2   -7.6    3.5    0.3    3.6    3.1  -21.6   -9.4   -6.9   -2.7   -1.0    6.9   -5.4
STD ERROR           1.6    2.6    1.5    1.7    0.8    0.9    4.9    3.5    1.9    2.5    1.6    1.6    1.8    0.7    3.6    3.0    5.1    3.5    1.4    1.0    1.4
BAL   EFFECT        0.3   -2.4    0.5    1.4    1.2   -1.3   -3.4  -12.0    5.5   -6.4    3.0   -0.4    2.4    2.2  -16.0   -5.8   -4.9   -0.9   -0.9    5.0   -4.0
STD ERROR           1.5    1.7    1.3    1.4    0.8    0.9    3.5    3.7    2.1    2.5    1.6    1.5    1.8    0.6    3.6    2.7    5.2    3.4    1.4    1.0    1.4

EXER: R111  NATL % 83.0    Day and night occur because of the earth's rotation.

UNADJ EFFECT       -1.5   -5.1    4.5    1.3    1.9   -2.0   -4.9   -6.9    7.1   -3.1   -0.5   -1.8    3.6    2.1  -15.2   -4.8   -6.6   -4.4    0.4    4.9   -4.1
STD ERROR           1.9    2.2    1.6    1.7    0.8    0.8    6.5    4.1    1.9    2.6    2.3    2.0    2.1    0.6    3.3    3.6    4.8    4.4    1.9    1.2    1.4
BAL   EFFECT       -1.5   -4.9    4.8    0.7    1.9   -2.0   -3.2   -0.8    6.3   -2.6   -1.7   -1.9    2.5    1.7  -12.2   -4.0   -5.7   -2.9    0.6    3.6   -3.2
STD ERROR           1.6    2.1    1.5    1.7    0.8    0.8    4.6    3.8    2.1    2.6    2.2    1.8    1.6    0.5    3.3    3.7    4.7    4.4    1.9    1.2    1.3

EXER: R112  NATL % 83.0    Acid should be handled carefully.

UNADJ EFFECT       -1.4   -5.6    3.8    1.0    2.0   -2.1   -2.0  -18.1    3.5   -2.6    7.1   -1.3   -0.3    3.1  -15.3   -8.9   -5.2    1.1    3.1    4.0   -5.3
STD ERROR           1.5    2.1    1.5    1.6    0.9    1.0    2.4    4.0    1.9    3.4    1.7    2.0    2.1    0.6    2.8    3.4    3.6    2.6    1.3    1.2    1.3
BAL   EFFECT       -3.0   -2.6    3.1    1.2    1.9   -2.0   -1.6  -10.7    3.5   -1.2    4.4   -1.6   -0.2    2.1  -11.2   -4.6   -3.3    2.7    2.3    2.7   -4.1
STD ERROR           1.5    2.0    1.6    1.6    0.9    0.9    1.9    4.4    1.7    3.0    1.7    2.0    1.7    0.6    3.0    3.7    3.4    2.1    1.1    1.2    1.2

EXER: R113  NATL % 83.3    Pine trees stay green in the winter.

UNADJ EFFECT        5.4   -4.6    3.6   -5.9    0.5   -0.5   -4.3  -23.0    6.1   -5.0   -0.5    1.8    5.2    3.3  -15.1  -21.9   -3.9   -6.6    1.5    4.6   -4.6
STD ERROR           1.5    2.4    1.7    2.0    0.8    0.8    7.2    5.7    2.7    2.4    2.5    1.6    1.8    0.6    3.0    3.5    3.9    4.6    1.7    1.0    1.1
BAL   EFFECT        5.3   -6.1    3.5   -4.2    0.4   -0.4   -1.6  -15.3    5.6   -3.3   -2.6    0.4    4.8    2.1   -9.2  -14.8   -0.7   -3.1    0.9    3.2   -3.5
STD ERROR           1.4    2.2    1.8    1.9    0.7    0.8    5.7    6.0    2.5    2.4    2.0    1.6    2.2    0.5    3.3    4.1    3.5    4.2    1.8    1.1    1.2
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: R114 NATL % 80.9 Alligators are found in swamps.																					
UNADJ EFFECT	4.8	-2.4	-1.0	-1.8	2.6	-2.5	-1.2	-21.3	12.1	3.8	-1.2	1.3	1.5	4.7	-20.4	-16.2	-15.8	-4.2	2.0	8.2	-7.4
STD ERROR	1.9	2.6	2.0	2.1	1.1	1.1	6.0	3.6	3.0	3.0	2.5	1.8	2.3	0.7	2.4	3.9	5.6	4.7	1.9	1.2	1.6
BAL EFFECT	3.7	-0.1	-1.7	-1.6	2.4	-2.4	1.7	-5.9	6.0	3.8	-3.1	0.1	0.5	4.0	-17.5	-12.9	-12.3	-4.5	1.9	7.2	-6.7
STD ERROR	1.5	2.1	1.7	1.8	1.0	1.0	5.3	4.1	2.8	3.6	2.3	1.4	2.0	0.7	2.8	3.9	5.6	4.7	1.8	1.1	1.7
EXER: R115 NATL % 79.3 To see something, light must reach the eye.																					
UNADJ EFFECT	-2.5	2.0	-1.2	2.3	-1.0	1.1	2.4	-10.8	0.7	-4.8	1.3	-0.7	3.0	1.1	-1.1	-9.1	-11.1	8.5	2.5	1.0	-2.7
STD ERROR	2.7	2.3	1.9	2.1	1.1	1.1	2.8	4.3	2.9	3.9	3.2	2.4	2.2	0.4	2.5	3.4	5.3	3.2	2.0	1.4	1.5
BAL EFFECT	-2.4	1.7	-2.5	4.1	-1.0	1.0	3.1	-5.8	1.1	-3.9	1.8	-1.1	2.5	1.1	-1.3	-8.6	-11.0	7.6	2.3	0.5	-1.8
STD ERROR	2.6	2.2	1.9	2.2	1.1	1.1	2.9	4.5	2.7	4.0	3.1	2.4	2.3	0.5	2.6	3.7	5.5	3.3	2.0	1.4	1.6
EXER: R116 NATL % 79.7 One kind of plant which does not have green leaves is a mushroom.																					
UNADJ EFFECT	4.2	-9.5	-0.8	4.0	-2.6	2.7	-6.2	-25.5	5.5	-0.1	6.5	2.7	-2.7	4.9	-27.6	-7.6	-14.2	-7.9	1.9	4.1	-1.9
STD ERROR	1.8	2.7	2.1	1.9	1.0	1.0	5.4	4.5	2.7	3.8	2.8	1.7	2.6	0.7	2.4	4.8	5.1	4.6	1.6	1.3	1.3
BAL EFFECT	2.0	-3.5	-1.6	2.6	-2.5	2.6	-0.2	-13.8	2.1	1.8	3.3	1.0	-2.4	3.9	-22.5	-4.1	-10.3	-4.7	0.5	2.7	-0.6
STD ERROR	1.5	1.8	1.7	1.5	0.9	0.9	4.1	4.6	2.8	2.5	2.5	1.5	2.0	0.6	2.3	3.9	4.6	4.7	1.4	1.3	1.1
EXER: R117 NATL % 77.0 A burning candle when sealed in a glass jar goes out.																					
UNADJ EFFECT	1.3	-3.7	0.3	1.5	5.6	-5.4	-6.4	-27.6	8.7	-2.4	7.3	-0.8	-2.2	4.4	-19.5	-15.8	-13.4	-15.2	2.0	8.0	-4.2
STD ERROR	2.3	3.6	2.7	2.4	1.1	1.0	9.3	5.2	3.9	4.5	2.4	1.9	3.1	1.0	3.9	4.5	6.1	4.6	1.9	1.4	1.6
BAL EFFECT	-1.0	0.4	-1.3	2.4	5.0	-4.8	-0.3	-15.6	4.2	-0.7	4.5	-1.2	-2.1	3.3	-14.4	-12.3	-11.1	-13.1	2.0	5.5	-2.6
STD ERROR	1.8	2.3	2.6	1.7	1.0	0.9	6.9	5.8	3.1	4.3	2.2	1.4	2.8	1.0	4.3	4.7	5.3	4.3	1.9	1.5	1.6
EXER: R119 NATL % 72.7 Lifting a 20 lb weight 2 feet is more work than lifting the same weight 1 foot, or a 10 lb weight 2 feet.																					
UNADJ EFFECT	4.5	-4.0	-0.9	-0.7	-0.4	0.4	-3.9	-9.7	11.2	-2.7	-0.8	-0.2	-0.0	3.1	-18.9	-6.2	-6.0	0.8	0.4	5.6	-5.5
STD ERROR	2.3	2.8	2.3	2.4	1.2	1.3	4.5	5.8	3.4	5.0	3.1	2.8	2.0	0.7	3.0	4.3	6.1	4.2	2.1	1.6	2.0
BAL EFFECT	3.0	-2.2	-0.9	-0.5	-0.6	0.6	1.1	2.4	7.4	-1.5	-3.0	-1.2	-0.6	2.9	-17.6	-5.1	-4.7	2.8	0.8	4.0	-4.8
STD ERROR	2.0	2.3	2.2	2.6	1.1	1.3	4.3	5.4	3.2	4.6	3.2	2.7	2.0	0.7	3.1	4.7	6.0	4.3	2.0	1.5	1.8
EXER: R120 NATL % 72.8 When a block on a string swings down and strikes a second stationary block, the second block is caused to swing away.																					
UNADJ EFFECT	2.6	-7.9	5.3	-1.6	2.1	-2.2	-14.8	-22.8	15.1	2.6	3.9	-0.9	0.9	4.7	-26.0	-14.2	-27.1	-4.5	-3.4	8.6	-3.6
STD ERROR	2.4	3.5	2.3	2.6	0.9	0.9	7.5	3.6	2.8	4.5	2.6	2.7	2.4	0.9	3.9	4.6	5.2	5.1	1.8	1.4	1.8
BAL EFFECT	-0.2	-2.0	3.4	-1.9	1.7	-1.7	-11.0	-9.6	9.7	4.4	1.9	-1.5	-0.2	3.5	-19.7	-9.7	-22.1	-0.5	-3.2	6.5	-2.6
STD ERROR	2.1	2.3	1.9	2.0	0.9	0.9	5.5	4.0	2.9	3.7	2.5	2.3	2.4	0.8	4.1	4.5	5.8	5.0	1.5	1.3	1.7
EXER: R121 NATL % 71.5 The sun is seen only during the daytime because the earth is turning.																					
UNADJ EFFECT	1.1	-9.1	6.2	-1.2	1.6	-1.8	-15.5	-19.6	9.2	-9.5	5.9	3.3	0.6	4.7	-20.4	-21.5	-14.6	-10.7	0.9	6.3	-3.3
STD ERROR	2.3	3.3	2.0	2.9	1.0	1.1	5.3	5.6	3.1	3.5	2.5	2.7	3.3	0.8	2.6	5.1	5.2	4.5	2.0	1.6	1.6
BAL EFFECT	-1.7	-7.3	4.5	2.2	1.3	-1.5	-7.0	-8.9	5.5	-8.6	2.5	2.8	0.0	3.3	-13.1	-17.2	-11.3	-5.7	1.3	3.8	-2.4
STD ERROR	2.1	2.7	1.9	2.2	1.0	1.1	4.3	4.7	3.0	4.1	2.3	2.5	2.8	0.7	3.4	4.1	4.5	4.8	1.9	1.5	1.5

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EXER: R122  NATL % 71.1    Honeybees are more beneficial to man than are lice, locusts, or termites.

UNADJ EFFECT      -1.8  -7.1     8.8   1.3     4.2    -4.8   -17.1 -30.5     9.7  -6.3     2.3   8.7   1.0     5.6 -27.3 -21.2 -11.8  -5.3      0.6      7.8  -6.2
STD ERROR          2.7   3.4     2.5   3.4     1.1     1.3     6.3   5.6     3.6   3.5     3.3   2.5   3.4     1.0   3.2   5.8   5.4   5.1      1.9      1.6   1.5
BAL   EFFECT      -4.5  -5.6     4.0   4.3     3.9    -4.5    -9.1 -16.6     5.7  -5.0    -0.9   7.8  -0.1     4.0 -17.9 -17.2  -8.5  -0.8      0.8      5.0  -4.7
STD ERROR          2.4   2.9     2.0   2.6     1.1     1.3     5.6   5.2     3.2   3.9     3.0   2.1   2.6     0.9   3.8   5.1   4.4   4.8      1.8      1.4   1.3

EXER: R123  NATL % 66.9    Scientists study fossils to determine what type of animals lived long ago.

UNADJ EFFECT       4.2 -22.5     8.2   2.8     3.0    -3.1   -11.1 -30.3    15.1  -9.5    16.7  -3.7  -2.8     7.1 -34.7 -20.9 -19.9 -11.9      5.2      9.9  -8.0
STD ERROR          2.7   3.4     2.5   2.6     1.1     1.1     5.6   6.1     5.1   5.5     2.7   3.4   3.6     0.9   3.7   4.1   5.1   4.7      2.3      1.8   2.0
BAL   EFFECT       0.2 -16.6     7.8   2.9     2.8    -2.9    -6.0 -17.9    15.1  -9.3     8.3  -4.8  -0.3     4.6 -22.2 -13.9 -13.3  -5.6      3.7      6.5  -5.7
STD ERROR          2.6   3.6     2.4   2.3     0.9     1.0     4.2   6.8     4.0   4.4     2.9   2.9   3.0     0.8   3.6   4.1   4.3   4.8      1.9      1.5   1.7

EXER: R124  NATL % 63.2    Proper connection of a bulb to a flashlight battery.

UNADJ EFFECT       1.1  -2.9     2.6  -1.8     6.1    -6.5    -1.8 -19.8     8.6  -4.7     3.2   0.7  -1.4     3.4 -13.9 -18.4  -9.0  -2.1      1.3      5.2  -5.4
STD ERROR          2.1   2.1     1.8   2.1     1.2     1.3     4.0   5.1     3.2   4.0     2.4   2.3   2.1     0.6   2.7   3.5   5.7   4.4      2.2      1.3   1.6
BAL   EFFECT      -0.0  -1.6     1.3  -0.2     6.3    -6.6    -0.5  -9.6     5.2  -2.9     2.2  -0.0  -1.6     2.6 -10.9 -13.3  -3.1   0.6      1.9      3.1  -4.5
STD ERROR          2.1   2.3     1.9   1.7     1.2     1.3     2.9   5.3     3.4   3.9     2.4   2.5   2.0     0.6   2.8   3.9   5.8   4.5      2.1      1.3   1.5

EXER: R125  NATL % 61.5    Most land plants get most of their water directly from the soil.

UNADJ EFFECT       4.0  -4.2    -1.6   1.8    -1.0     1.1    -6.3 -26.4    10.7  -9.3    -0.8   5.5   1.8     3.6 -19.2 -11.0  -9.0  -1.8      1.0      6.2  -6.4
STD ERROR          2.5   3.4     2.4   2.2     1.2     1.2     5.5   4.1     3.9   4.7     2.6   2.5   2.4     0.7   3.7   4.7   5.2   5.2      2.3      1.3   1.7
BAL   EFFECT       3.7  -4.3    -2.2   2.9    -1.2     1.2    -1.9 -19.1     6.7  -8.8    -2.4   5.2   2.5     2.2 -12.6  -4.0  -5.4  -1.6      1.6      4.4  -5.3
STD ERROR          2.4   3.0     2.3   2.4     1.2     1.3     5.4   3.9     4.3   4.7     2.5   2.3   2.4     0.6   3.4   4.8   5.1   4.9      1.9      1.4   1.7

EXER: R126  NATL % 59.4    Most scientists think the center of the earth is very hot.

UNADJ EFFECT       8.4  -5.0    -3.5  -0.3     3.1    -3.6   -17.9 -18.9    10.2  -3.9     4.0   3.3  -1.7     3.7 -20.5  -8.9   0.7  -9.4     -3.6      5.8  -1.4
STD ERROR          2.1   3.2     2.4   2.5     1.3     1.5     7.0   3.8     3.7   3.4     2.5   2.9   2.8     0.7   3.4   3.8   5.2   4.3      2.3      1.9   1.9
BAL   EFFECT       5.0   0.5    -5.1   0.8     2.9    -3.4   -14.7  -7.3     5.5  -1.2     2.1   3.3  -2.1     3.0 -16.5  -8.1   3.4  -6.8     -2.3      3.3  -0.9
STD ERROR          2.2   3.1     2.4   2.4     1.4     1.6    10.7   4.9     3.2   3.5     2.5   3.0   2.7     0.9   5.9   4.1   4.6   4.6      2.2      1.8   1.8

EXER: R127  NATL % 60.1    The sun and a penny are both made of atoms.

UNADJ EFFECT       3.4  -7.3     4.8  -4.0    -0.8     1.0    -9.1 -16.0     9.3  -7.1     5.2   2.6  -4.0     3.7 -17.4 -15.1 -10.3  -5.2      4.3      8.3  -8.2
STD ERROR          2.7   3.0     2.8   3.0     1.2     1.4     6.4   3.1     3.5   5.8     3.1   2.7   2.8     0.7   2.8   5.0   5.5   3.8      2.5      2.0   2.2
BAL   EFFECT       1.0  -3.3     2.8  -2.1    -1.4     1.6    -4.5  -4.2     4.8  -3.0     3.0   3.0  -5.6     2.7 -13.6  -9.6  -7.5  -2.8      4.6      6.4  -7.5
STD ERROR          2.4   3.0     2.6   3.0     1.1     1.3     5.6   2.9     3.4   5.1     2.7   2.5   2.9     0.7   3.0   4.8   5.1   3.7      2.4      1.7   2.1
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                         REGION                    SEX                      SIZE AND TYPE OF COMMUNITY                          COLOR                    HIGH SCHOOL EDUCATION

                                                                EXTREME  INNER EXTREME  INNER  URBAN MEDIUM  SMALL     NON
                 N.EAST S.EAST CENTRAL   WEST    MALE FEMALE     RURAL   CITY AFF SUB FRINGE FRINGE   CITY   CITY   BLACK  BLACK  OTHER    NONE   SOME GRADUATED   POST UNKNOWN

EXER: R128  NATL % 55.2    The sun is a star.

UNADJ EFFECT       10.9  -12.0     1.8   -2.1     3.8   -3.9      -3.7  -15.7   16.7   -1.7    5.1   -3.9   -6.3     3.1  -15.9   -9.6   -21.5   -8.3     -0.0      6.8   -3.9
STD ERROR           3.1    3.4     3.0    2.6     1.3    1.3       5.6    4.2    4.0    6.0    3.9    4.0    3.2     0.8    4.4    4.6     4.8    4.7      2.4      1.7    1.9
BAL   EFFECT        9.9  -10.6     1.1   -2.1     3.4   -3.6       0.2  -11.0   13.9   -2.0    2.1   -3.8   -4.3     1.3   -7.8   -2.1   -14.0   -3.4      1.1      4.6   -3.7
STD ERROR           3.4    2.7     3.1    2.7     1.3    1.4       6.9    4.4    4.2    5.7    3.6    3.4    3.1     0.7    3.9    4.9     4.8    5.1      2.5      1.7    1.8

EXER: R129  NATL % 54.7    Read a thermometer and dress accordingly.

UNADJ EFFECT        4.7  -10.1     5.8   -2.5     1.4   -1.4     -18.4  -15.6    8.1   -1.9   -2.3    2.8    5.6     3.0  -18.4  -13.3    -6.4   -7.2     -0.4      5.8   -4.1
STD ERROR           2.5    3.4     2.4    2.6     1.3    1.3       7.0    5.7    3.7    3.0    2.8    2.6    2.9     0.7    3.1    5.5     7.1    6.0      1.9      1.6    1.7
BAL   EFFECT        3.7  -10.3     7.3   -2.9     1.1   -1.2     -15.6   -8.8    8.2   -1.5   -5.0    2.2    5.3     1.9  -11.8   -8.3    -1.8   -2.0     -0.3      3.8   -3.4
STD ERROR           2.1    2.5     1.9    2.5     1.3    1.3       4.7    5.5    3.4    3.5    2.7    2.3    2.3     0.6    3.0    5.4     8.0    5.2      1.8      1.5    1.6

EXER: R130  NATL % 53.0    The most comfortable temperature for a school room is about 70 degrees.

UNADJ EFFECT        4.4  -14.2     7.7   -1.7     0.9   -0.9      -6.1  -27.2   16.9   -0.0    6.1   -3.1   -3.5     5.2  -24.0  -16.0     0.8  -12.6      2.9     10.0   -8.7
STD ERROR           2.7    3.2     2.6    2.6     1.2    1.2       7.6    4.6    5.9    5.1    2.6    2.6    3.8     1.0    3.5    4.1     5.8    5.5      2.3      2.0    1.8
BAL   EFFECT        2.2   -9.7     6.5   -1.9    -0.0    0.0      -0.4  -12.3   13.8   -0.4    1.2   -2.5   -2.3     3.6  -15.7  -13.5     6.2  -10.1      3.3      7.1   -7.6
STD ERROR           2.6    3.4     2.3    2.4     1.2    1.2       5.4    4.9    4.5    4.7    2.5    2.4    3.6     0.9    3.9    4.6     5.1    5.3      2.1      1.7    1.6

EXER: R131  NATL % 51.3    Cactus plants survive on the desert because they lose little water through their leaves.

UNADJ EFFECT        1.5   -1.1     0.2   -0.9     1.2   -1.3     -15.8  -25.0    9.1   -9.7   -0.1    6.9    5.5     5.5  -23.7  -25.1    -6.3  -11.5      2.9      9.6   -9.6
STD ERROR           2.4    3.5     2.8    3.2     1.0    1.1       6.7    5.9    3.3    4.6    3.0    3.1    3.2     0.9    3.3    3.4     5.4    4.5      2.2      1.8    1.8
BAL   EFFECT       -1.1   -0.3    -1.0    2.4     1.0   -1.2      -8.4   -9.0    4.0   -7.7   -2.5    4.9    4.4     4.2  -17.4  -20.2    -3.5   -8.1      3.1      7.1   -8.2
STD ERROR           2.0    3.1     2.4    2.4     0.9    1.0       4.7    5.5    3.0    4.9    2.8    3.0    2.6     0.8    4.0    3.1     5.1    4.1      2.2      1.8    1.8

EXER: R132  NATL % 48.7    A different substance is formed when a candle burns.

UNADJ EFFECT        3.0   -9.6     1.0    2.7     3.5   -3.9     -19.8  -15.8   10.8   -5.2    5.5    0.3    1.7     4.0  -17.7  -17.4   -14.4  -15.3      0.8      8.3   -4.7
STD ERROR           2.8    3.6     2.8    3.3     1.1    1.2       5.0    5.9    4.5    5.3    3.3    3.5    3.9     1.0    3.1    6.5     4.6    4.8      2.4      1.7    2.1
BAL   EFFECT       -0.0   -6.6    -0.7    5.6     3.3   -3.8     -11.3   -6.0    7.0   -6.4    2.9    0.1    1.4     2.6   -9.8  -14.6   -11.5  -11.2      1.8      5.9   -4.0
STD ERROR           2.9    3.7     2.8    2.6     1.0    1.2       4.5    5.7    4.6    4.9    3.4    3.3    3.3     0.9    3.6    6.0     4.4    5.0      2.4      1.7    1.8

EXER: R133  NATL % 46.2    In a scientific study all conditions other than those being purposely manipulated should be kept constant

UNADJ EFFECT        6.2  -11.2     3.4   -1.7     2.5   -2.9     -15.0  -14.7    8.0    5.6    0.2    0.6    1.0     2.6  -11.1  -11.6    -1.4  -10.8     -1.0      9.3   -5.9
STD ERROR           1.5    1.8     1.9    1.9     1.2    1.4       3.1    2.5    3.2    4.8    1.8    2.4    2.0     0.6    3.2    4.0     5.0    3.6      2.6      1.8    1.9
BAL   EFFECT        4.6   -8.8     2.3   -0.4     2.0   -2.4      -7.9   -7.4    3.5    7.1   -3.0    1.5    1.6     1.6   -5.1   -9.9     2.4   -7.1     -1.2      7.6   -5.5
STD ERROR           1.6    1.9     2.0    2.2     1.1    1.3       3.4    3.4    2.5    4.1    2.0    2.4    1.9     0.7    3.9    4.2     5.1    3.8      2.5      1.9    1.8

EXER: R134  NATL % 46.0    Houseflies can spread serious human disease.

UNADJ EFFECT       -3.4   -2.2     2.6    2.4     1.8   -2.1      -6.8  -13.0    9.9   -4.6    0.7    2.1   -1.0     2.0  -10.5   -6.0    -9.2   -4.0     -0.2      6.1   -3.5
STD ERROR           2.5    3.3     2.8    2.7     1.2    1.4       5.8    5.7    4.6    4.6    2.9    3.4    2.9     0.7    3.7    4.7     4.3    4.9      2.2      1.6    1.8
BAL   EFFECT       -5.4    0.8     1.7    3.2     1.6   -1.8      -5.5   -6.5    7.3   -3.0   -0.2    2.9   -1.9     1.5   -7.5   -5.2    -8.1   -3.6     -0.3      5.0   -2.6
STD ERROR           2.6    3.3     2.8    2.8     1.2    1.5       5.4    6.0    4.6    4.3    2.9    3.4    2.6     0.7    3.8    4.8     4.5    4.7      2.1      1.6    1.7
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EXER: R135  NATL % 38.2    A rock broken into three pieces raises the water level in a container the same amount as the whole rock.

UNADJ EFFECT      -4.2  -5.1   5.3   2.1   2.5  -2.9  -3.5  -8.2   5.6  -7.9   3.8  -4.2   3.2   2.0  -8.3  -9.8  -6.9  -5.1  -1.2   7.2  -4.0
STD ERROR          2.4   2.5   2.0   2.4   1.0   1.2   7.6   4.4   3.3   4.7   2.6   2.1   3.0   0.7   3.3   5.3   4.6   4.6   2.5   1.6   1.8
BAL   EFFECT      -5.5  -3.9   4.1   4.4   2.3  -2.6  -0.0  -2.1   2.7  -6.9   2.0  -3.3   3.0   1.5  -4.7  -9.4  -5.3  -3.7  -2.1   6.0  -2.8
STD ERROR          2.1   2.2   1.8   2.3   1.1   1.2   6.5   5.0   3.5   4.2   2.7   2.0   2.6   0.7   3.7   5.3   4.8   4.5   2.4   1.6   1.7

EXER: R136  NATL % 36.1    All matter takes up space.

UNADJ EFFECT       5.2  -5.1  -0.2  -1.0   1.2  -1.3 -10.7  -9.9  12.2  -9.1   6.9  -3.1  -2.0   2.4 -10.5 -10.3  -6.2  -2.9  -1.7   9.6  -6.5
STD ERROR          2.8   2.9   2.8   3.4   1.2   1.4   5.3   3.3   5.9   4.5   2.9   3.3   3.9   0.7   3.0   4.1   3.5   3.6   2.5   2.0   1.8
BAL   EFFECT       3.0  -1.9  -1.7   0.6   0.8  -0.9  -7.3  -3.4   8.4  -6.9   5.4  -2.7  -2.3   1.4  -5.7  -6.6  -3.6   0.2  -0.7   7.3  -6.0
STD ERROR          2.5   1.0   2.8   3.4   1.0   1.2   4.8   3.3   5.5   4.3   2.8   3.1   3.7   0.6   2.8   6.2   3.4   3.4   2.3   1.9   1.7

EXER: R137  NATL % 33.9    A quart of mercury weighs more than a quart or air, sawdust, or water.

UNADJ EFFECT       1.2  -3.2  -0.6   1.9   2.1  -2.2   4.6   0.9   2.4   1.6  -4.3   3.8  -5.0   0.7  -6.5   4.2   5.9  11.2  -0.6   1.7  -3.7
STD ERROR          3.0   3.4   2.7   2.6   1.3   1.3   4.7   4.9   5.5   3.7   4.1   2.6   3.4   0.6   3.0   3.6   4.6   4.3   2.6   1.6   1.8
BAL   EFFECT       1.4  -3.6  -0.5   1.9   2.1  -2.1   5.2   4.2   2.0   2.4  -5.7   3.9  -5.0   1.0  -6.9   1.0   6.6  12.6  -0.4   1.4  -3.8
STD ERROR          3.1   3.4   2.6   2.8   1.3   1.3   5.0   5.1   5.1   3.6   4.1   2.6   3.3   0.5   3.1   4.1   4.6   4.1   2.4   1.6   1.6

EXER: R138  NATL % 35.2    After a cold front passes, it is common to have clearing skies.

UNADJ EFFECT       1.1   3.1  -5.5   2.6   1.6  -1.8  -1.0 -10.7   3.0  -1.0   0.1   1.2   1.2   2.0 -14.3  -0.2  -0.6   5.9   2.9   1.1  -4.7
STD ERROR          2.2   2.7   1.9   2.2   1.1   1.3   4.5   2.8   3.3   3.9   2.6   2.6   3.1   0.5   2.2   4.5   5.1   5.3   2.2   1.7   1.8
BAL   EFFECT      -0.0   4.9  -5.7   2.6   1.6  -1.8  -0.5  -0.8   1.2  -0.6   0.4  -0.5   0.1   2.1 -14.4  -2.0  -1.0   5.5   3.2   0.2  -3.7
STD ERROR          2.2   2.5   1.9   2.4   1.2   1.3   4.6   3.4   3.1   3.8   2.5   2.3   2.8   0.6   2.7   5.1   5.5   5.3   2.2   1.7   1.8

EXER: R139  NATL % 28.2    Rock cannot indefinitely be broken into smaller and smaller pieces and still be rock.

UNADJ EFFECT       4.2  -3.1  -0.9  -0.8   2.4  -2.4   0.3 -14.1   6.4  -3.8   1.2   3.8  -1.9   2.6 -14.0  -3.2 -12.9   3.9  -2.7   8.2  -5.9
STD ERROR          1.8   3.2   2.0   2.4   1.3   1.2   5.3   2.7   3.2   3.8   2.2   2.5   2.6   0.5   2.3   3.4   4.0   5.1   2.1   1.7   1.7
BAL   EFFECT       4.1  -1.5  -1.1  -1.7   2.2  -2.1   2.5  -6.1   2.0  -4.4  -0.1   3.4  -1.8   1.8 -10.9   0.4 -11.7   3.9  -3.1   7.7  -5.3
STD ERROR          1.8   2.9   1.9   2.5   1.3   1.2   5.3   3.0   3.5   3.7   2.2   2.3   2.6   0.6   2.5   3.7   3.9   5.3   2.1   1.7   1.8

EXER: R140  NATL % 14.3    Coal is formed from dead plants.

UNADJ EFFECT      -3.3   9.8  -2.3  -2.6   3.0  -2.9   3.3   4.5  -6.2  -8.0   4.5   0.7  -2.2  -0.3   4.0  -4.8  -1.7  -0.2  -0.8   2.8  -1.6
STD ERROR          2.1   3.3   2.0   1.9   0.8   0.8   4.0   3.1   3.7   2.5   3.1   2.1   2.5   0.5   2.8   2.5   3.3   3.5   1.5   1.5   1.2
BAL   EFFECT      -2.6  10.1  -3.4  -2.1   2.7  -2.6   2.4   5.6  -5.9  -5.2   5.3  -0.0  -3.6   0.2  -0.2  -2.6  -3.9  -0.2  -1.3   3.1  -1.2
STD ERROR          2.3   3.5   2.0   1.8   0.9   0.8   5.3   3.5   3.7   2.5   2.8   2.0   2.6   0.5   3.1   2.5   3.4   3.4   1.5   1.4   1.2

EXER: R141  NATL %  7.1    The mixing of equal quantities of water at 70 degrees F and water at 50 degrees F yields a mixture at 60  degrees F.

UNADJ EFFECT       1.8  -2.8   0.6   0.0   1.1  -1.2   0.3   0.3   3.3  -2.0   0.0  -0.7  -0.5   0.0   1.6  -2.9   0.7  -1.1  -0.6  -0.6   1.1
STD ERROR          1.3   1.2   1.2   1.3   0.6   0.7   2.3   2.1   1.8   1.1   1.2   1.4   1.4   0.2   1.9   1.9   2.7   2.4   1.1   0.8   0.9
BAL   EFFECT       1.8  -3.4   0.7   0.4   1.1  -1.2   1.2  -0.4   3.8  -2.7  -0.5  -0.9   0.2  -0.0   2.2  -3.1   1.2  -0.1  -0.4  -0.9   1.1
STD ERROR          1.2   1.1   1.3   1.5   0.6   0.7   1.9   2.5   1.8   1.2   1.3   1.4   1.4   0.3   2.3   2.3   2.9   2.4   1.1   0.8   0.8
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
OBJECTIVE: Possess the ability and skills needed to engage in the processes of science.																					
EXER: R142 NATL % 96.7 Balance one weight by hanging a second weight on a beam balance.																					
UNADJ EFFECT	-2.1	0.2	1.6	-0.0	-0.0	0.0	-2.7	-0.7	1.3	-0.6	2.4	-0.9	-0.9	0.3	-0.6	-2.7	2.2	2.1	-0.7	0.3	-0.6
STD ERROR	1.3	1.0	0.7	0.9	0.4	0.4	2.4	1.6	1.3	1.9	0.6	1.3	1.1	0.2	1.3	2.3	1.2	0.8	0.8	0.5	0.8
BAL EFFECT	-2.6	0.7	1.7	0.0	-0.2	0.2	-3.8	0.2	1.8	-0.1	2.5	-0.9	-1.3	0.3	-0.3	-2.8	2.8	2.2	-0.6	0.1	-0.5
STD ERROR	1.4	1.2	0.7	0.9	0.4	0.4	2.3	1.9	1.4	1.9	0.8	1.3	1.0	0.3	1.6	2.2	1.4	0.7	0.8	0.5	0.8
EXER: R144 NATL % 90.4 Select the leaf that gives off the most water knowing that big leaves give off the most water.																					
UNADJ EFFECT	0.1	-5.5	2.5	1.1	0.3	-0.3	-8.5	-6.0	3.4	3.0	4.4	-1.6	-0.3	1.6	-7.0	-6.6	-5.9	-2.5	0.8	3.3	-2.3
STD ERROR	1.7	1.7	1.3	1.3	0.8	0.9	3.9	2.6	2.1	1.6	1.4	1.6	1.7	0.5	2.8	2.2	3.8	2.7	0.9	1.0	1.0
BAL EFFECT	-1.4	-3.6	2.5	1.1	0.3	-0.3	-7.8	-1.6	3.7	3.3	2.4	-1.8	0.1	1.1	-4.3	-5.9	-3.5	-0.4	0.6	2.4	-2.1
STD ERROR	1.6	2.0	1.2	1.1	0.8	0.8	3.9	3.3	1.9	2.1	1.4	1.6	1.6	0.6	3.1	2.2	3.8	3.0	0.9	1.0	0.9
EXER: R145 NATL % 81.1 Given a table listing the weights of several elements in the human body, choose the most common element (oxygen).																					
UNADJ EFFECT	1.7	-5.6	2.8	0.2	-1.9	2.0	-4.9	-17.7	6.7	0.1	-1.8	0.6	3.8	2.7	-19.1	-7.2	-11.4	-5.7	3.2	7.0	-7.6
STD ERROR	1.8	2.5	1.6	1.7	0.9	1.0	7.6	4.4	2.3	2.6	2.4	2.2	1.7	0.6	3.9	3.2	5.5	4.0	1.6	1.4	1.3
BAL EFFECT	2.0	-5.8	2.9	-0.0	-2.0	2.1	-1.9	-9.5	5.0	1.4	-3.7	0.1	2.9	1.8	-13.4	-4.3	-8.9	-2.8	3.1	5.8	-7.0
STD ERROR	1.5	1.9	1.5	1.5	0.9	1.0	6.4	4.4	2.0	2.7	1.8	2.0	1.5	0.6	4.2	3.3	5.1	3.7	1.6	1.3	1.2
EXER: R146 NATL % 75.8 Identify what needs to be done in order to fix a flat bicycle tire.																					
UNADJ EFFECT	5.4	-9.2	4.1	-3.5	1.9	-2.2	-15.1	-31.2	13.1	-3.5	2.9	2.8	0.8	4.5	-19.8	-22.2	-16.9	-6.8	2.9	9.3	-6.9
STD ERROR	1.8	3.7	1.9	2.9	0.9	1.0	10.4	4.3	2.2	4.7	2.3	2.3	2.4	0.8	2.9	5.4	4.8	3.5	1.8	1.4	1.6
BAL EFFECT	2.7	-5.5	1.8	-0.7	1.4	-1.6	-8.7	-20.0	8.0	0.2	0.1	3.4	-0.1	2.8	-9.9	-16.5	-13.2	-3.5	2.6	6.7	-5.4
STD ERROR	1.5	2.7	1.8	2.3	0.9	1.0	8.9	4.1	2.2	3.4	1.9	2.1	2.5	0.8	3.2	5.2	4.5	3.9	1.8	1.3	1.6
EXER: R147 NATL % 68.9 Choose the best way of verifying someone's recipe for making salt-water taffy.																					
UNADJ EFFECT	0.4	-8.2	7.5	-1.6	-0.4	0.4	-2.1	-27.9	4.2	1.1	4.4	0.1	1.7	4.5	-26.1	-11.4	-5.6	0.9	-3.5	11.4	-10.9
STD ERROR	2.0	3.8	2.6	2.4	1.0	1.0	6.8	5.8	2.9	4.1	3.0	2.3	3.0	0.8	3.6	3.3	4.8	4.0	2.4	1.4	1.7
BAL EFFECT	-1.2	-4.4	5.8	-1.4	-0.8	0.8	0.0	-13.6	-1.2	2.8	2.9	0.1	-0.1	3.3	-19.2	-7.7	-1.4	3.9	-4.2	10.0	-9.8
STD ERROR	1.9	3.0	2.5	2.1	1.0	1.0	5.8	5.9	3.1	3.0	3.2	2.0	2.6	0.7	3.8	3.8	5.0	3.9	2.1	1.3	1.7
EXER: R148 NATL % 66.9 Conclude from a data table the fact that young people generally breathe faster than older people.																					
UNADJ EFFECT	5.6	-1.0	-3.1	-1.5	-2.1	2.2	-16.3	-16.0	11.2	-3.4	2.3	2.1	1.2	2.4	-11.7	-14.3	-8.9	-11.0	2.3	6.9	-6.4
STD ERROR	2.3	2.9	2.3	2.6	1.2	1.3	4.6	3.7	3.2	3.4	3.1	2.7	2.3	0.5	3.6	3.6	5.5	6.8	2.0	1.9	1.8
BAL EFFECT	4.3	-0.6	-2.6	-1.2	-2.2	2.3	-13.3	-8.6	8.5	-1.2	1.6	0.6	0.8	1.5	-6.8	-9.7	-3.9	-8.1	2.8	5.3	-6.1
STD ERROR	2.1	2.6	2.0	2.5	1.2	1.2	5.7	3.9	3.3	3.3	2.9	2.4	2.2	0.5	3.8	4.0	5.5	6.0	2.1	2.0	1.7
EXER: R149 NATL % 64.9 Read a table of data showing temperatures at different times of a day.																					
UNADJ EFFECT	4.6	-5.1	3.3	-4.3	-2.5	2.6	0.5	-29.1	10.1	-6.2	4.1	0.3	-0.6	4.6	-24.0	-13.8	-23.6	1.1	1.6	6.9	-6.2
STD ERROR	2.3	3.2	2.1	2.7	1.2	1.2	5.8	4.3	2.6	4.0	2.4	3.0	3.0	0.9	3.2	3.8	4.4	4.7	2.6	1.7	2.0
BAL EFFECT	4.1	-3.1	1.2	-2.9	-2.6	2.7	3.9	-18.1	5.4	-5.0	1.8	-0.5	0.6	2.9	-17.7	-3.4	-19.1	0.4	1.8	5.4	-5.1
STD ERROR	2.0	2.3	2.1	2.1	1.1	1.2	3.5	4.1	2.8	3.9	2.3	2.6	2.6	0.8	3.0	3.9	4.1	4.6	2.2	1.6	1.9

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EXER: R150  NATL % 55.9   Given a table listing the weights of several elements in the human body, choose the least common element.

UNADJ EFFECT         1.9  -9.2   5.7  -0.0  -4.4   4.7  -8.0 -25.9  10.6   1.2  -5.8   1.6   6.7     4.1 -28.9 -11.1   -10.8 -11.7    -0.3     9.9  -7.3
STD ERROR            3.0   3.3   2.9   2.6   1.2   1.3   9.4   5.7   4.1   4.6   4.7   2.8   2.5     0.8   3.5   4.0     5.9   5.7     2.3     1.8   1.8
BAL   EFFECT         2.1  -9.7   6.6  -0.9  -4.7   5.0  -3.7 -13.9   8.5   2.4  -9.1   1.4   5.4     2.9 -20.6  -7.2    -6.7  -6.8    -0.9     8.2  -6.3
STD ERROR            2.5   2.5   2.5   2.3   1.1   1.2   6.7   4.5   3.8   4.4   3.7   2.6   2.1     0.7   3.6   3.8     5.3   5.0     2.3     1.8   1.7

EXER: R151  NATL % 54.4   Given information about the height of a plant for successive weeks, select the graph which accurately displays its
                          growth.

UNADJ EFFECT         3.5  -5.1  -0.7   1.7   1.1  -3.2 -11.1 -11.1  10.8  -1.0  -0.0   1.5   1.5     3.3 -20.4  -6.3    -1.5  -0.0    -2.4     6.7  -6.3
STD ERROR            2.5   3.2   2.9   3.0   1.3   1.3   4.9   3.6   3.6   4.5   3.8   2.6   3.1     0.8   3.7   5.7     5.1   4.7     2.8     1.6   1.8
BAL   EFFECT         2.2  -2.1  -1.8   1.8   2.8  -2.8  -7.7   0.7   6.6   0.8  -1.9   0.8   0.4     3.0 -18.0  -6.1     2.1   2.6    -1.5     5.0  -5.8
STD ERROR            2.3   2.3   2.8   2.6   1.3   1.3   3.8   4.3   3.3   4.3   3.9   2.1   3.0     0.8   3.4   5.7     4.8   4.3     2.6     1.5   1.7

EXER: R152  NATL % 53.1   Recognize vaccination as the reason that so few people get smallpox.

UNADJ EFFECT         2.6  -0.5   2.0  -5.4  -3.0   3.5 -15.1 -22.5  13.7  -8.3   1.6   1.9   2.8     5.1 -22.8 -22.3    -8.6  -8.3     0.1    10.1  -6.8
STD ERROR            2.5   3.8   3.3   2.7   1.3   1.5   8.1   4.3   4.5   4.7   3.6   2.9   3.7     0.9   3.8   4.2     4.9   5.3     2.2     1.7   1.6
BAL   EFFECT        -1.2   4.9  -0.0  -3.1  -3.4   4.0 -12.9  -6.9   8.0  -1.5  -0.3   2.3   0.1     4.2 -20.3 -15.6    -6.4  -7.6    -0.2     8.2  -5.2
STD ERROR            2.4   3.2   3.1   2.3   1.3   1.4   7.2   5.3   4.3   4.0   3.5   2.6   3.7     0.9   4.1   4.2     4.5   5.2     2.2     1.5   1.6

EXER: R153  NATL % 38.1   Identify a reasonable explanation as to why water does not come out of a faucet.

UNADJ EFFECT         9.6  -4.9  -1.9  -3.6  -2.0   1.9 -10.9 -20.1  20.3  -3.7   2.4   2.8  -1.3     4.2 -16.2 -19.2   -10.1   0.7    -1.0     9.1  -7.9
STD ERROR            2.6   3.0   2.0   2.1   1.4   1.4   4.5   3.0   3.8   3.5   2.2   2.5   2.5     0.7   3.0   2.9     4.4   5.7     2.5     1.7   2.0
BAL   EFFECT         8.0  -2.9  -1.8  -3.7  -2.4   2.3  -7.1  -8.3  14.5  -4.0   0.5   1.8  -1.4     2.9 -11.3 -13.1    -5.0   4.1    -0.8     7.9  -8.0
STD ERROR            2.1   2.5   1.6   1.8   1.4   1.3   4.5   4.1   3.4   3.1   1.9   2.1   2.1     0.7   3.3   3.2     4.4   5.5     2.2     1.7   2.0

EXER: R154  NATL % 16.7   Infer that water would freeze at 32 degrees F when given the fact that ice melts at 32 degrees F.

UNADJ EFFECT         2.2   2.3  -2.5  -0.9   3.9  -4.0  -3.8  -4.7   2.0  -0.7   4.9  -4.3   2.5     0.7  -3.5  -1.8    -0.5  -2.1    -0.8     3.3  -1.9
STD ERROR            2.0   2.4   2.4   1.9   1.0   1.1   4.6   2.7   3.3   3.6   3.3   2.0   2.5     0.4   2.0   2.7     4.1   3.0     1.5     1.3   1.4
BAL   EFFECT         1.5   4.9  -3.3  -1.2   3.8  -4.0  -3.3  -2.8  -0.3   0.4   5.6  -4.5   2.1     0.5  -3.7   1.4    -1.0  -3.2    -1.2     3.5  -1.5
STD ERROR            2.0   2.5   2.2   1.9   1.0   1.0   4.7   3.0   3.2   1.5   3.1   2.0   2.5     0.4   1.8   2.8     4.0   3.7     1.5     1.2   1.3

OBJECTIVE:    Understand the investigative nature of science.

EXER: R155  NATL % 92.7   Recognize that observation is a basic characteristic of scientific experiments.

UNADJ EFFECT         2.9  -1.8   2.6  -4.3   0.2  -0.2 -15.2  -6.9   5.3  -2.4   1.4   0.7   3.4     3.4 -12.1 -19.2    -5.1  -8.6     0.5     3.9  -2.2
STD ERROR            1.3   1.6   1.2   2.4   0.6   0.6   8.4   2.9   1.3   1.8   1.8   1.5   1.2     0.9   2.4   7.4     2.7   4.5     1.0     0.8   1.2
BAL   EFFECT         0.7   0.5   1.5  -2.6  -0.0   0.0 -10.2   2.9   1.9   0.0  -0.4  -0.7   2.8     2.9 -11.6 -14.9    -2.1  -4.5     0.7     2.4  -2.0
STD ERROR            1.1   1.6   0.9   1.3   0.5   0.6   6.1   3.1   1.1   1.8   1.5   1.1   0.9     0.8   2.5   5.8     2.6   1.2     1.0     0.7   1.0
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: R156 NATL % 79.6 Recognize that phenomena are amenable to scientific inquiry even where a rational explanation is not immediately available.																					
UNADJ EFFECT	3.1	-13.9	2.3	4.6	-1.1	1.2	-13.6	-22.5	6.2	0.6	5.0	3.0	0.2	4.6	-24.8	-9.4	-13.1	0.1	0.4	6.7	-4.5
STD ERROR	1.9	2.5	1.9	1.5	0.9	1.0	4.4	4.7	3.4	3.9	2.4	2.0	2.3	0.7	2.8	3.4	4.2	3.6	1.5	1.3	1.5
BAL EFFECT	0.7	-10.2	2.7	3.7	-0.9	1.0	-9.2	-11.7	5.2	1.4	0.1	2.1	1.3	3.3	-17.4	-6.9	-8.5	5.0	-0.3	4.7	-3.6
STD ERROR	1.9	2.2	1.9	1.5	0.9	1.0	3.5	4.6	2.2	3.7	2.6	1.9	1.8	0.6	2.5	3.5	4.0	3.4	1.4	1.2	1.3
EXER: R157 NATL % 39.4 Recognize that the statement "My dog is better than your dog" is not a scientifically testable statement.																					
UNADJ EFFECT	-1.0	-2.4	3.0	-0.7	0.8	-0.8	9.7	-16.9	8.5	-12.3	-0.3	2.7	-2.1	3.2	-14.5	-15.0	-16.8	-5.8	0.1	6.0	-4.1
STD ERROR	2.9	3.5	2.8	3.5	1.3	1.3	10.2	4.0	5.4	4.1	3.8	3.6	3.2	0.8	3.8	3.4	5.3	5.2	1.9	1.6	1.9
BAL EFFECT	-1.4	-2.4	1.4	1.8	0.6	-0.6	12.1	-7.2	4.4	-11.6	-1.7	2.2	-1.6	2.5	-12.2	-9.7	-13.0	-5.1	0.2	4.6	-3.1
STD ERROR	3.0	3.4	2.8	3.1	1.3	1.3	8.5	4.6	5.8	3.8	4.0	3.3	3.1	0.8	4.2	3.7	5.2	5.1	1.9	1.5	1.9
EXER: R158 NATL % 23.0 Recognize a simple definition of a scientific theory.																					
UNADJ EFFECT	2.8	-3.1	1.3	-1.6	3.1	-3.1	-8.2	-6.9	12.4	-1.9	5.4	-4.2	-0.5	1.1	-5.2	-4.4	-13.3	-0.7	-0.2	3.1	-1.7
STD ERROR	2.8	2.1	2.0	2.4	1.2	1.2	3.8	2.2	3.9	3.4	3.1	1.9	2.5	0.5	2.4	3.2	2.9	3.6	2.6	1.4	1.6
BAL EFFECT	1.6	-0.4	1.0	-2.5	3.0	-1.0	-7.4	-5.2	11.1	-1.8	5.4	-4.4	-0.6	0.1	-1.2	0.2	-11.3	1.2	-0.1	2.3	-1.4
STD ERROR	2.6	2.1	1.9	2.4	1.2	1.2	3.8	1.0	3.8	3.4	3.0	2.1	2.4	0.5	2.9	3.2	2.9	3.4	2.4	1.4	1.5
EXER: R159 NATL % 23.0 Select from among five alternatives the one which has the least to do with a scientific description of an apple.																					
UNADJ EFFECT	-1.6	-4.9	3.8	1.2	-0.5	0.5	-0.6	-15.1	11.7	-3.1	3.1	-3.4	-0.5	3.3	-13.1	-15.4	-8.8	-11.0	-2.8	11.6	-5.2
STD ERROR	2.0	2.3	1.8	2.0	0.9	0.9	4.7	2.1	3.1	2.7	2.5	1.7	2.3	0.6	2.2	2.1	3.6	4.1	1.9	1.6	1.6
BAL EFFECT	-2.7	-2.1	2.5	1.5	-1.3	1.1	3.7	-3.7	7.5	-1.1	0.0	-3.2	-0.3	2.9	-10.3	-15.4	-5.9	-9.4	-2.6	10.1	-4.7
STD ERROR	1.9	2.3	1.7	1.8	0.8	0.8	3.8	2.1	3.0	2.3	2.1	1.7	1.9	0.6	2.3	2.3	3.7	3.9	2.0	1.7	1.6
OBJECTIVE: Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.																					
EXER: R160 NATL % 74.2 Think that the number thirteen brings bad luck.																					
UNADJ EFFECT	-2.5	2.1	-2.9	4.1	-0.5	0.5	-0.0	0.8	-0.9	4.1	-0.9	-0.9	-0.1	-0.2	-3.4	8.4	7.3	-1.0	-1.6	4.0	-4.7
STD ERROR	2.4	2.3	2.8	2.4	1.2	1.2	5.4	3.3	4.0	4.6	3.6	2.6	2.8	0.6	3.5	3.9	4.2	4.1	1.8	1.4	1.7
BAL EFFECT	-2.5	1.2	-3.0	3.2	-0.6	0.6	-0.8	2.5	-1.7	4.8	-0.3	-1.1	-0.8	0.2	-4.6	5.7	6.5	-1.7	-0.8	4.1	-5.0
STD ERROR	2.6	2.4	2.9	2.6	1.2	1.2	5.4	3.8	4.0	4.5	3.7	2.4	2.8	0.7	3.9	4.0	4.3	4.0	1.8	1.4	1.8
OBJECTIVE: Know the fundamental facts and principles of science.																					
EXER: U601 NATL % 95.7 (Text for this exercise was not released)																					
UNADJ EFFECT	1.2	-1.5	-0.4	0.6	-0.2	0.2	-1.6	-8.2	2.4	-0.1	0.3	0.5	0.9	1.1	-7.0	-4.4	-3.5	0.7	0.6	2.3	-2.6
STD ERROR	0.8	1.3	0.9	0.9	0.4	0.5	2.0	2.7	1.0	1.1	1.3	0.9	1.1	0.3	2.2	2.3	2.8	1.6	0.8	0.5	0.8
BAL EFFECT	1.2	-1.7	-0.5	0.9	-0.3	0.3	-0.1	-5.1	1.3	0.4	-0.1	0.1	0.6	0.8	-4.7	-3.8	-2.4	1.7	0.6	1.8	-2.1
STD ERROR	0.8	1.1	0.8	0.8	0.4	0.5	2.0	2.6	0.9	1.1	1.2	0.8	1.0	0.3	2.1	2.3	3.0	1.6	0.8	0.5	0.8

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EXER: U602  NATL % 95.4   (Text for this exercise was not released)

UNADJ EFFECT          1.9   -4.7    1.0    1.0   -0.1    0.1   -6.0  -17.8    4.3   -0.3    2.3    1.8    0.7    2.7  -14.5   -7.8   -4.3    0.5    0.8    2.3   -2.5
STD ERROR             1.1    2.3    0.9    0.9    0.5    0.5    4.5    4.2    0.8    1.3    1.0    0.9    1.3    0.6    3.1    3.6    2.3    1.6    0.9    0.7    0.8
BAL   EFFECT          1.2   -3.3   -0.0    1.8    0.0    0.0   -3.6  -11.8    2.1   -0.2    1.2    1.4    0.9    1.9  -10.7   -4.9   -1.2    0.9    1.0    1.0   -1.8
STD ERROR             0.8    1.4    0.7    1.0    0.4    0.5    2.8    3.9    0.7    1.3    0.9    0.7    1.0    0.5    2.3    3.3    2.2    1.8    0.7    0.5    0.7

EXER: U603  NATL % 95.1   (Text for this exercise was not released)

UNADJ EFFECT          2.3   -5.8    1.1    0.8   -0.4    0.4    0.7  -17.0    2.3   -1.9    2.8    1.8   -0.7    2.6  -12.8   -7.2   -5.7   -3.0    0.1    3.2   -1.6
STD ERROR             0.9    1.6    1.0    0.8    0.4    0.5    1.3    3.5    1.0    2.5    1.0    1.0    1.2    0.5    2.3    3.0    2.8    1.9    0.9    0.7    0.8
BAL   EFFECT          1.7   -4.0    0.6    0.6   -0.4    0.4    3.6  -11.3    1.3   -1.4    0.5    1.1   -0.1    1.8   -9.3   -3.8   -4.3   -1.4   -0.7    2.4   -0.8
STD ERROR             0.8    1.4    0.9    0.8    0.4    0.4    1.5    3.6    0.8    2.0    0.9    0.8    0.8    0.4    2.2    2.5    2.4    1.8    0.8    0.6    0.6

EXER: U604  NATL % 94.8   (Text for this exercise was not released)

UNADJ EFFECT          0.7   -3.8    0.5    2.0    0.4   -0.4   -2.1  -10.3    4.0   -1.6    1.0   -0.6    1.2    1.8  -11.3   -1.8   -5.4    2.8   -0.4    1.5   -1.2
STD ERROR             1.0    1.8    0.9    0.8    0.4    0.4    4.1    5.0    0.9    2.1    1.2    1.2    1.2    0.6    3.0    2.0    2.7    1.4    1.4    0.7    0.9
BAL   EFFECT          0.3   -2.8   -0.2    2.5    0.4   -0.5    0.3   -6.3    2.5   -1.8    0.1   -0.8    1.3    1.4   -9.2   -0.8   -3.6    3.2    0.2    0.5   -0.7
STD ERROR             0.9    1.3    0.9    0.9    0.4    0.4    2.6    4.4    0.8    2.1    1.1    1.0    1.1    0.5    2.5    2.3    2.5    1.5    1.1    0.6    0.9

EXER: U605  NATL % 92.8   (Text for this exercise was not released)

UNADJ EFFECT          1.7   -1.1    2.3   -3.4    0.9   -0.9   -5.4  -15.3    4.3    1.2    3.4   -1.7    2.2    2.9  -11.7  -16.5   -9.9   -3.0    2.1    3.4   -3.5
STD ERROR             1.1    1.5    1.0    1.9    0.5    0.6    4.2    3.9    1.2    1.6    1.0    1.5    1.4    0.5    2.4    3.7    3.3    2.4    1.1    0.7    1.0
BAL   EFFECT         -0.0    1.6    0.7   -2.3    0.8   -0.8   -4.0   -7.0    1.8    3.2    2.7   -2.3    0.7    2.3   -9.4  -13.1   -8.0   -1.1    1.6    2.4   -2.7
STD ERROR             1.0    1.3    0.9    1.5    0.6    0.6    3.3    3.6    1.2    1.2    1.0    1.3    1.4    0.5    2.3    3.3    3.3    2.3    1.1    0.6    0.9

EXER: U606  NATL % 92.2   (Text for this exercise was not released)

UNADJ EFFECT          2.7   -3.2    1.7   -2.3   -1.2    1.2   -4.3  -10.1    4.3   -0.4    3.5    0.4   -0.3    2.9   -7.4  -21.7   -8.7   -7.3    1.0    4.0   -2.6
STD ERROR             1.1    2.0    1.0    1.5    0.7    0.7    4.4    2.6    1.7    2.2    1.2    1.4    1.6    0.5    2.2    3.0    3.6    5.5    1.1    0.7    0.9
BAL   EFFECT          1.5   -2.2    0.4   -0.4   -1.3    1.3   -1.2   -1.3    0.7   -0.2    2.1   -0.3   -1.0    2.6   -6.1  -20.5   -5.4   -6.1    1.2    3.4   -2.7
STD ERROR             0.9    1.8    1.0    1.5    0.7    0.7    3.4    2.8    1.6    2.6    1.1    1.3    1.5    0.6    2.5    3.2    3.2    5.5    1.1    0.8    0.9

EXER: U607  NATL % 91.9   (Text for this exercise was not released)

UNADJ EFFECT          2.8   -8.4    2.2    0.9    2.6   -2.9  -16.1  -16.0    3.7    2.8    3.9    1.6    1.6    3.7  -19.8  -11.0   -4.3  -10.4   -0.5    4.4   -1.7
STD ERROR             1.0    1.9    1.3    1.8    0.7    0.8    5.4    3.9    1.5    1.6    1.2    1.5    1.6    0.7    2.8    4.6    2.8    5.3    1.0    0.9    1.1
BAL   EFFECT          0.5   -4.9    1.4    1.5    2.3   -2.6   -9.5   -6.0    0.4    3.0    1.1    1.4    1.1    2.8  -14.9   -8.6   -1.7   -6.8   -0.1    2.6   -1.2
STD ERROR             0.8    1.9    1.1    1.1    0.7    0.8    4.5    3.5    1.4    1.9    1.0    1.4    1.3    0.6    3.2    3.3    3.0    4.2    1.0    0.7    0.8

EXER: U608  NATL % 91.3   (Text for this exercise was not released)

UNADJ EFFECT          1.5   -7.6    3.8    0.5   -0.0    0.0   -4.3  -21.0    7.5   -0.5    2.7    2.4   -2.1    4.0  -19.7  -14.9   -7.0    0.1    0.2    2.7   -2.4
STD ERROR             1.3    2.3    1.0    1.4    0.6    0.6    5.3    4.2    0.9    2.6    1.4    1.2    1.7    0.7    2.7    3.5    3.6    2.4    1.7    1.0    1.1
BAL   EFFECT          0.1   -6.0    2.2    2.5    0.1   -0.1   -1.5  -10.7    4.9   -0.8    0.8    1.8   -1.8    3.1  -15.0  -12.0   -1.7    1.9    1.1    0.7   -1.6
STD ERROR             0.9    1.2    0.8    1.2    0.6    0.6    2.4    3.7    1.1    2.4    1.0    1.0    1.3    0.6    2.2    3.3    3.0    2.3    1.3    0.9    0.8

EXER: U609  NATL % 89.1   (Text for this exercise was not released)

UNADJ EFFECT          2.6   -7.6    1.4    1.5   -0.3    0.3    0.1  -22.9    5.6   -0.9    3.5    0.4    0.1    4.4  -22.2  -10.8   -9.7   -2.0    4.4    3.1   -4.4
STD ERROR             1.4    2.0    1.4    1.4    0.5    0.6    3.1    4.6    1.7    3.1    1.7    1.5    1.9    0.6    2.7    4.1    4.2    3.0    1.0    1.1    1.0
BAL   EFFECT          1.2   -4.5    0.8    1.3   -0.3    0.3    3.8  -11.5    3.9    1.0   -0.3   -0.8    0.4    3.4  -19.1   -7.5   -7.2    0.4    3.3    1.8   -3.1
STD ERROR             1.2    1.5    1.2    1.2    0.5    0.5    2.3    4.4    1.1    2.8    1.5    1.2    1.5    0.6    2.5    4.0    4.3    3.0    0.8    1.0    1.0
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0610 NATL % 87.7 (Text for this exercise was not released)																					
UNADJ EFFECT	1.7	-1.6	-2.9	3.1	0.9	-0.9	1.8	-6.4	4.0	1.9	-0.3	-2.5	3.0	1.2	-6.5	-1.1	-4.8	3.4	0.2	4.3	-4.7
STD ERROR	1.8	2.2	1.9	1.5	1.0	1.0	2.2	3.1	3.0	2.5	3.0	1.7	1.7	0.5	2.1	3.3	4.5	3.3	2.0	1.4	1.9
BAL EFFECT	2.4	-1.5	-3.4	3.0	0.7	-0.7	3.5	-2.4	0.6	1.6	-0.6	-2.8	3.2	1.0	-4.6	-2.5	-4.2	3.3	0.1	4.0	-4.4
STD ERROR	1.8	1.9	1.7	1.4	1.0	0.9	2.7	3.3	2.8	2.4	2.7	1.6	1.8	0.4	1.9	3.4	4.6	3.2	2.0	1.5	1.9
EXER: 0611 NATL % 87.2 (Text for this exercise was not released)																					
UNADJ EFFECT	2.0	-7.0	3.3	0.1	0.8	-0.8	-8.5	-19.0	7.4	-7.3	5.2	0.8	0.1	4.6	-24.3	-8.2	-3.6	-1.9	1.2	5.6	-4.9
STD ERROR	1.6	2.9	1.5	2.0	0.7	0.7	9.1	4.9	2.4	3.9	1.7	2.2	2.3	0.9	3.5	2.9	4.9	3.2	1.5	1.1	1.1
BAL EFFECT	0.1	-2.4	2.4	-1.0	0.3	-0.3	-3.1	-4.4	5.1	-6.9	1.8	0.6	-0.2	3.9	-21.0	-5.4	-0.9	-0.7	0.9	3.5	-3.4
STD ERROR	1.2	2.0	1.4	1.7	0.7	0.7	6.2	4.5	2.1	2.9	1.5	1.8	1.3	0.8	3.7	3.0	3.6	3.1	1.4	1.1	1.0
EXER: 0612 NATL % 86.6 (Text for this exercise was not released)																					
UNADJ EFFECT	4.0	-5.2	0.3	-0.4	1.0	-1.0	-3.8	-14.2	2.6	1.0	1.1	0.3	3.9	2.8	-11.6	-10.3	-12.9	-2.1	1.4	4.0	-3.2
STD ERROR	1.6	1.9	1.6	1.7	0.8	0.8	4.6	4.3	3.6	2.3	2.0	1.5	1.6	0.6	2.5	2.6	4.4	3.7	1.3	0.9	1.3
BAL EFFECT	4.1	-4.7	-0.8	0.4	0.9	-0.9	-0.5	-7.1	-1.5	0.1	-0.5	-0.1	4.4	2.0	-8.0	-8.0	-10.6	-2.1	1.2	3.4	-2.7
STD ERROR	1.5	1.7	1.5	1.7	0.8	0.8	4.5	4.5	3.2	2.6	1.9	1.3	1.5	0.5	2.5	3.2	4.6	3.7	1.3	1.0	1.1
EXER: 0613 NATL % 81.8 (Text for this exercise was not released)																					
UNADJ EFFECT	-2.4	-5.4	5.4	0.4	2.5	-2.4	-0.7	-18.9	5.4	-7.5	5.4	-3.6	3.1	4.2	-19.4	-12.4	-15.5	-7.5	1.3	5.9	-2.7
STD ERROR	1.6	2.2	1.6	2.2	1.0	0.9	5.5	3.2	3.2	5.3	1.8	2.4	2.0	0.7	3.2	3.9	6.8	4.2	1.7	1.3	1.4
BAL EFFECT	-4.0	-2.2	4.1	1.0	2.3	-2.2	4.1	-6.0	2.5	-6.4	1.9	-3.6	3.3	3.6	-17.0	-10.1	-13.6	-7.1	1.2	3.8	-1.1
STD ERROR	1.6	1.8	1.4	2.2	0.9	0.9	3.7	3.9	2.6	4.3	1.6	2.1	1.4	0.7	3.2	4.3	6.1	3.8	1.7	1.3	1.3
EXER: 0614 NATL % 81.4 (Text for this exercise was not released)																					
UNADJ EFFECT	3.6	-0.8	-0.2	-2.9	-0.3	0.3	-6.3	-13.2	6.6	-7.9	5.0	4.0	-4.0	2.9	-16.0	-7.7	-2.6	-3.3	0.2	5.0	-4.6
STD ERROR	1.3	2.6	1.7	1.5	0.9	1.0	5.6	3.9	2.4	3.1	1.8	2.0	1.6	0.6	3.4	3.4	3.5	2.8	1.4	1.0	1.5
BAL EFFECT	2.0	1.4	-0.9	-2.0	-0.4	0.5	-3.4	-4.4	3.7	-6.3	3.8	2.9	-4.4	2.0	-13.0	-3.1	-1.2	-1.4	0.0	3.7	-3.5
STD ERROR	1.2	2.2	1.6	1.5	0.9	1.0	5.1	4.1	2.0	3.3	1.7	1.8	1.7	0.6	3.7	3.7	3.6	3.2	1.3	1.0	1.4
EXER: 0615 NATL % 80.9 (Text for this exercise was not released)																					
UNADJ EFFECT	0.0	-2.3	2.6	-1.5	2.0	-1.9	1.0	-18.6	7.4	-12.0	3.0	1.6	4.0	3.1	-10.6	-17.3	-13.7	-4.3	1.5	5.3	-4.1
STD ERROR	2.0	2.0	2.3	2.3	0.9	0.9	5.7	5.1	2.1	3.7	2.7	2.1	1.9	0.7	3.2	3.0	5.2	4.2	1.6	1.1	1.4
BAL EFFECT	-0.2	-2.8	2.0	-0.0	1.9	-1.9	3.5	-11.0	4.8	-12.3	1.5	1.2	3.5	2.0	-6.0	-12.5	-11.5	-4.6	1.2	4.3	-3.1
STD ERROR	1.8	2.1	2.1	2.1	0.9	0.9	4.9	5.4	1.9	4.0	2.7	1.9	2.0	0.6	3.0	4.2	5.1	4.4	1.6	1.1	1.3
EXER: 0616 NATL % 80.3 (Text for this exercise was not released)																					
UNADJ EFFECT	5.8	-14.2	4.1	-0.2	-3.0	3.1	-12.6	-35.9	8.6	-12.0	11.3	2.6	1.5	6.9	-30.9	-25.1	-17.9	-7.8	4.5	7.7	-6.4
STD ERROR	1.7	2.8	1.9	2.1	0.9	0.9	3.8	4.6	3.3	4.3	2.0	2.0	2.4	0.8	3.4	3.2	5.1	3.9	1.3	1.2	1.3
BAL EFFECT	2.6	-9.8	3.9	-0.0	-2.9	3.0	-6.7	-19.9	7.3	-10.1	5.1	0.7	2.6	4.5	-20.8	-15.8	-12.6	-2.9	2.6	5.1	-4.3
STD ERROR	1.3	2.1	1.4	1.7	0.8	0.8	2.7	5.0	1.8	2.9	2.0	1.4	1.7	0.6	2.8	3.8	4.8	3.6	1.1	0.9	1.1

```
EXER: 0617  NATL % 78.2   (Text for this exercise was not released)

UNADJ EFFECT     1.7   -5.5    0.2    3.2    2.0   -2.1   -6.1  -11.4    4.4   -1.8    1.6   -0.5    3.0     1.3   -6.2   -8.7   -3.3   -5.0     0.4     6.1   -5.7
STD ERROR        2.2    2.2    2.3    2.3    1.3    1.3    6.3    3.4    3.4    2.8    3.4    2.5    2.0     0.5    3.2    3.8    5.3    4.4     1.7     1.5    1.4
BAL   EFFECT     1.8   -6.3   -0.2    4.5    1.9   -2.0   -2.7   -8.4    2.3   -1.5    0.8   -1.1    3.4     0.7   -0.5   -9.3   -1.6   -3.0     0.7     5.2   -5.4
STD ERROR        2.2    2.1    2.3    2.2    1.2    1.3    5.3    4.0    3.4    2.7    3.2    2.4    2.0     0.5    3.8    4.3    4.8    4.7     1.7     1.5    1.5

EXER: 0618  NATL % 77.7   (Text for this exercise was not released)

UNADJ EFFECT     3.2   -7.3   -1.0    3.1    3.1   -3.5  -13.6  -18.8    6.2   -3.7    2.9    3.6    2.0     4.3  -25.6   -9.1   -4.1   -5.7     0.8     5.7   -5.1
STD ERROR        2.2    2.8    2.4    2.2    0.9    1.0    5.6    6.2    3.9    4.4    3.1    2.7    2.7     0.8    3.2    4.7    4.7    3.8     1.9     1.3    1.8
BAL   EFFECT     0.9   -4.4   -1.9    4.3    2.9   -3.2   -6.5   -4.7    2.1   -3.9    0.1    2.9    1.0     3.5  -20.3   -8.7   -2.3   -3.1     1.4     3.5   -4.0
STD ERROR        2.0    2.5    2.3    2.0    0.9    1.0    5.3    5.6    3.7    3.4    3.2    2.5    2.3     0.7    3.2    4.4    4.4    3.7     1.8     1.1    1.6

EXER: 0619  NATL % 77.8   (Text for this exercise was not released)

UNADJ EFFECT     7.0  -12.0    5.1   -2.3   -2.9    3.1  -18.3  -25.7    7.4   -3.3    4.9    1.5    5.2     4.5  -20.0  -30.8  -11.4   -9.5    -2.1     8.9   -5.3
STD ERROR        1.8    3.5    1.8    2.4    0.9    0.9    7.5    4.1    3.0    4.0    2.9    2.2    1.8     0.9    5.8    4.0    5.4    6.2     1.8     1.2    1.5
BAL   EFFECT     5.7  -12.8    4.6    0.6   -3.2    3.4  -12.4  -13.7    4.9   -1.5    1.1    0.2    4.9     3.3  -11.5  -27.5   -3.7   -3.4    -2.5     7.0   -4.8
STD ERROR        1.8    2.6    1.7    1.8    0.9    0.9    5.3    4.3    2.8    3.7    2.4    2.2    1.7     0.8    5.0    3.0    5.5    4.9     1.8     1.2    1.4

EXER: 0620  NATL % 76.7   (Text for this exercise was not released)

UNADJ EFFECT     1.4   -9.3    1.0    4.5    0.0   -0.0   -7.1  -12.9    5.2   -6.5    0.9    2.9    2.2     4.6  -22.1  -14.2  -10.5   -5.1     4.8     5.1   -5.8
STD ERROR        2.1    3.1    2.7    2.1    1.0    1.0    4.3    2.9    4.3    4.6    4.0    2.6    2.3     0.8    3.6    4.0    5.1    4.4     1.8     1.6    1.6
BAL   EFFECT    -0.6   -7.5    0.6    5.4    0.3   -0.4   -2.6    2.2    3.2   -4.7   -3.9    1.5    2.6     4.2  -18.2  -16.8   -7.7   -1.7     4.1     3.5   -4.8
STD ERROR        1.9    2.6    2.3    1.9    1.0    1.0    4.0    4.1    3.0    3.0    3.8    2.3    1.8     0.8    3.7    4.5    4.7    4.2     1.8     1.4    1.6

EXER: 0621  NATL % 76.6   (Text for this exercise was not released)

UNADJ EFFECT     3.2    3.7   -3.3   -2.3   -2.8    3.1   -8.7    2.1    2.2   -6.2   -3.5    4.7    2.5     0.2    0.1   -2.3    7.6   -0.0     2.3     3.9   -7.2
STD ERROR        1.9    2.3    2.1    2.3    0.9    1.1    5.8    3.3    3.3    5.1    1.9    2.3    2.3     0.5    2.8    4.3    3.5    2.9     1.7     1.4    1.5
BAL   EFFECT     3.4    2.7   -2.8   -2.4   -2.8    3.1  -10.0    3.7    1.3   -5.0   -3.2    4.1    2.7    -0.2    0.5    1.6    8.2   -0.5     2.2     1.9   -7.1
STD ERROR        1.8    2.4    2.2    2.3    0.9    1.1    5.5    3.8    3.2    5.2    2.0    2.3    2.3     0.6    3.1    4.7    4.0    3.2     1.6     1.4    1.6

EXER: 0622  NATL % 75.3   (Text for this exercise was not released)

UNADJ EFFECT     1.3   -5.8    3.1    0.5   -0.7    0.7   -4.8  -32.0    7.3   -3.5    3.7    3.3    1.5     4.2  -18.9  -28.7  -20.0  -16.5     2.7     7.6   -5.3
STD ERROR        2.5    3.0    2.2    2.2    0.8    0.9    6.9    4.8    3.1    4.0    2.3    3.0    2.3     0.8    5.3    3.4    5.0    6.9     1.6     1.4    1.6
BAL   EFFECT    -0.3   -6.3    2.0    4.1   -0.6    0.6    0.0  -20.2    4.1   -1.3    1.7    2.0    0.5     3.1  -10.9  -25.5  -15.4  -12.4     2.2     5.8   -4.2
STD ERROR        2.2    2.3    2.2    2.1    0.8    0.9    5.4    5.1    3.3    3.2    2.3    2.7    2.4     0.7    4.9    4.4    5.0    6.5     1.6     1.4    1.4

EXER: 0623  NATL % 74.9   (Text for this exercise was not released)

UNADJ EFFECT     6.4   -7.7    2.1   -3.1    1.5   -1.5   -8.9  -13.7   10.5    3.0    1.4    2.7   -2.3     3.9  -16.8  -14.0  -15.4  -14.1     2.6     7.9   -5.9
STD ERROR        2.1    2.4    1.9    2.5    1.2    1.2    2.7    3.8    2.3    3.2    2.5    2.6    2.6     0.7    2.6    2.9    5.6    6.1     1.8     1.2    1.6
BAL   EFFECT     4.5   -4.5    1.9   -3.4    1.4   -1.4   -5.1   -0.3    5.3    2.1   -1.5    2.0   -2.4     3.3  -14.9  -10.0  -11.2  -13.3     3.0     7.0   -5.9
STD ERROR        1.9    2.0    1.6    2.5    1.1    1.1    2.8    4.4    2.2    3.2    2.3    2.1    2.2     0.8    2.9    4.0    5.6    6.1     1.8     1.3    1.6
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0624 NATL % 73.9 (Text for this exercise was not released)																					
UNADJ EFFECT	-2.2	-10.6	5.4	5.9	3.6	-3.6	-6.9	-29.8	6.8	-0.8	8.8	-1.0	0.9	4.7	-28.1	-9.3	-13.9	-9.4	-1.4	9.4	-6.7
STD ERROR	1.9	3.6	2.0	2.0	1.2	1.3	6.8	5.3	4.1	2.6	2.8	2.8	2.6	1.0	3.7	4.3	4.6	4.0	1.8	1.2	1.8
BAL EFFECT	-4.7	-5.3	3.4	5.9	3.1	-3.1	-4.1	-16.7	1.3	0.5	6.2	-0.8	-0.1	3.3	-19.2	-8.1	-9.0	-6.1	-1.4	7.5	-5.8
STD ERROR	1.9	3.1	1.8	2.2	1.2	1.2	4.7	4.1	3.6	2.6	2.5	2.3	2.5	0.8	4.0	3.9	4.4	4.0	1.7	1.1	1.8
EXER: 0625 NATL % 73.3 (Text for this exercise was not released)																					
UNADJ EFFECT	3.1	-4.0	1.7	-1.8	-1.7	1.8	-2.8	-21.2	12.6	0.5	-3.6	2.4	-0.6	3.3	-16.1	-12.7	-16.5	1.2	-1.0	4.9	-3.0
STD ERROR	2.2	3.5	2.1	2.3	1.1	1.1	9.0	3.7	2.1	2.3	2.9	2.2	2.3	0.9	4.4	4.0	6.1	4.4	2.5	1.5	1.5
BAL EFFECT	2.9	-4.0	1.3	-1.0	-1.8	1.9	-0.3	-14.0	9.8	0.8	-5.3	1.9	0.3	1.9	-10.0	-5.6	-12.5	2.3	-0.4	3.3	-2.3
STD ERROR	1.9	2.6	2.0	1.9	1.0	1.1	6.6	3.6	2.1	2.4	3.0	2.0	2.2	0.8	3.7	4.3	6.1	4.7	2.1	1.4	1.5
EXER: 0626 NATL % 72.5 (Text for this exercise was not released)																					
UNADJ EFFECT	9.2	-14.6	4.6	-1.6	0.7	-0.7	-19.9	-29.6	14.8	-3.2	4.1	2.7	2.0	5.0	-27.4	-26.1	-5.6	-20.2	-2.9	11.4	-6.5
STD ERROR	2.3	3.4	2.2	2.4	1.2	1.2	7.6	4.9	3.7	4.2	3.1	2.5	2.4	0.9	4.8	4.5	5.5	6.1	2.1	1.4	1.9
BAL EFFECT	7.5	-14.4	5.1	-0.5	0.4	-0.4	-12.8	-16.3	11.8	-2.1	0.6	0.8	1.9	3.6	-17.8	-21.4	2.3	-12.7	-2.6	8.6	-5.7
STD ERROR	1.8	2.6	2.1	2.2	1.1	1.2	6.4	4.1	3.1	4.6	2.5	2.3	2.1	0.6	3.7	4.4	5.7	5.3	1.8	1.3	1.6
EXER: 0627 NATL % 71.1 (Text for this exercise was not released)																					
UNADJ EFFECT	6.6	-5.6	-2.5	0.6	-0.9	0.9	-17.3	-12.4	7.4	-4.4	6.2	2.3	-0.6	3.3	-15.7	-9.9	-11.5	-0.4	-1.7	6.4	-1.5
STD ERROR	1.9	2.3	2.8	2.2	1.0	1.0	10.1	4.9	2.9	1.1	2.1	2.6	2.5	0.7	3.0	3.2	4.6	4.5	2.0	1.5	1.7
BAL EFFECT	4.1	-1.3	-2.3	-0.2	-0.7	0.8	-12.6	-4.4	4.3	-1.1	4.1	1.0	-0.3	2.1	-11.6	-6.4	-8.0	-5.6	-2.5	5.3	-0.8
STD ERROR	1.6	2.9	2.6	2.0	1.0	1.0	10.5	4.4	2.6	3.1	2.8	2.7	2.2	0.7	3.0	3.2	4.3	4.8	1.9	1.4	1.6
EXER: 0628 NATL % 69.5 (Text for this exercise was not released)																					
UNADJ EFFECT	1.4	-2.6	4.5	-5.5	1.4	-1.6	-5.8	-18.9	9.0	-6.4	1.1	1.5	1.2	2.1	-8.8	-10.4	-2.4	-1.5	1.8	4.7	-4.7
STD ERROR	2.3	3.2	2.1	3.1	1.2	1.4	6.6	4.8	3.1	3.3	3.1	2.2	2.9	0.6	2.7	4.2	5.3	3.8	2.0	1.9	2.0
BAL EFFECT	0.4	-1.2	3.7	-4.5	1.0	-1.1	-4.3	-10.1	6.4	-4.1	-0.2	1.9	0.6	0.9	-4.3	-3.5	-1.3	-2.6	1.3	3.5	-3.5
STD ERROR	2.3	3.0	2.2	3.1	1.2	1.4	5.9	4.9	3.8	3.1	2.9	2.2	2.7	0.6	3.0	4.1	5.1	3.8	1.9	1.9	1.9
EXER: 0629 NATL % 69.0 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.7	-7.4	3.1	3.5	1.1	-1.1	-11.1	-16.1	12.1	-3.5	6.4	-1.1	-3.0	4.4	-21.1	-8.2	-10.1	-4.7	1.3	10.6	-7.9
STD ERROR	2.5	3.5	2.6	2.0	1.2	1.2	8.3	5.1	3.5	3.7	2.8	2.2	2.9	1.0	3.8	3.6	7.1	5.5	2.0	1.7	1.3
BAL EFFECT	-3.1	-1.4	1.7	2.3	0.1	-0.1	-5.6	-1.5	8.5	-1.6	3.0	-1.4	-3.3	1.8	-19.2	-7.9	-7.2	-2.5	1.8	8.0	-6.7
STD ERROR	2.4	2.3	2.2	1.8	1.1	1.0	5.6	5.4	3.1	3.3	2.5	2.1	2.3	0.8	1.6	3.6	6.6	5.3	2.0	1.8	1.4
EXER: 0630 NATL % 68.3 (Text for this exercise was not released)																					
UNADJ EFFECT	3.9	-4.9	0.9	-0.9	1.3	-1.4	-4.3	-29.4	12.3	-4.1	0.9	5.9	-3.4	3.4	-16.2	-14.4	-18.0	-7.0	-1.2	4.6	-1.3
STD ERROR	2.7	3.2	2.5	2.3	1.2	1.2	5.0	3.4	3.3	4.8	3.5	2.6	2.5	0.9	4.0	5.0	4.5	5.1	2.8	1.6	1.6
BAL EFFECT	3.1	-4.4	0.4	0.3	1.1	-1.1	-1.6	-23.0	9.5	-4.1	-0.7	5.6	-2.3	1.6	-8.6	-4.8	-12.2	-5.1	-0.7	2.6	-0.3
STD ERROR	2.4	2.3	2.2	2.4	1.2	1.2	3.6	1.9	1.4	4.6	3.3	2.4	2.3	0.6	1.7	4.6	4.8	4.8	2.6	1.5	1.6

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EXER: U631  NATL % 67.3   (Text for this exercise was not released)

UNADJ EFFECT         5.2  -6.4     4.2  -6.1     4.6  -5.3   -15.4 -31.2    10.6 -15.2     6.1   2.6   3.3     5.5 -21.2 -29.5 -10.9  -8.5     2.4     8.3  -6.2
STD ERROR            2.0   3.3     2.6   2.9     1.1   1.3     7.0   3.7     3.4   5.0     3.1   2.6   3.0     0.9   2.8   5.2   5.1   5.0     2.3     1.7   1.7
BAL   EFFECT         2.0  -2.9     1.1  -1.2     4.2  -4.8   -10.7 -17.4     5.4 -10.2     3.2   3.1   1.9     3.7 -12.7 -22.3  -8.0  -5.6     1.7     5.3  -3.9
STD ERROR            2.1   3.6     2.5   2.4     1.0   1.3     8.7   3.8     3.2   3.9     3.1   2.4   3.2     0.8   4.2   5.6   4.4   5.0     2.3     1.4   1.5

EXER: U632  NATL % 66.5   (Text for this exercise was not released)

UNADJ EFFECT         3.7 -10.9     3.4   0.9     2.4  -2.8   -20.7 -20.6    14.6  -3.0     3.4   1.7  -0.7     4.6 -24.3 -13.3 -11.4  -6.7     4.4     6.8  -6.5
STD ERROR            2.4   3.4     2.7   2.4     1.1   1.3     6.3   6.1     2.8   4.1     3.6   2.4   2.3     0.8   3.3   4.2   6.6   3.9     2.0     2.0   1.8
BAL   EFFECT         0.5  -5.0     0.9   2.7     2.0  -2.4   -15.3  -5.4     9.5   0.5     0.9   1.9  -2.3     3.7 -19.0 -12.0  -6.5  -2.5     5.1     3.8  -5.6
STD ERROR            2.6   2.5     2.5   2.6     1.0   1.2     8.6   5.4     2.9   3.1     3.4   2.5   2.3     0.7   4.4   4.3   5.8   4.2     1.9     2.0   1.9

EXER: U633  NATL % 65.1   (Text for this exercise was not released)

UNADJ EFFECT         6.5 -13.1     0.3   3.1     7.1  -6.9    -5.0 -21.6    16.2   1.4     6.2  -0.9  -2.4     4.8 -25.1  -7.0 -11.8  -7.7    -0.4    11.9  -9.7
STD ERROR            3.0   3.3     2.6   3.0     1.4   1.5     7.5   5.6     4.3   4.8     3.0   3.1   3.8     0.9   3.9   3.2   5.7   5.8     2.4     1.8   2.3
BAL   EFFECT         4.9  -8.9    -0.1   2.0     6.8  -6.6     0.1  -6.5     8.8  -0.5     2.7  -1.6  -1.8     3.7 -19.5  -5.4  -7.7  -7.1     0.1    10.1  -8.8
STD ERROR            2.7   3.1     2.6   3.3     1.3   1.4     7.3   5.0     4.6   4.3     3.1   2.8   3.6     0.8   3.3   4.1   5.0   6.2     2.2     2.1   2.0

EXER: U634  NATL % 63.1   (Text for this exercise was not released)

UNADJ EFFECT         3.4  -7.8     0.0   3.6     8.0  -8.0   -12.7 -24.3    14.3   0.3     5.3  -0.9   0.8     4.4 -27.0  -7.9 -16.5  -9.1    -1.3    10.4  -7.7
STD ERROR            2.6   3.6     2.1   2.4     1.2   1.3     6.5   4.1     2.7   3.7     2.5   3.1   2.7     0.9   3.1   4.6   6.1   4.3     2.5     1.5   1.8
BAL   EFFECT         1.1  -2.0    -2.0   3.0     7.5  -7.5    -8.3 -10.8     8.2   2.2     3.3  -1.8  -0.2     3.2 -19.8  -5.5 -11.8  -5.9    -0.8     8.3  -6.8
STD ERROR            2.6   2.2     2.1   2.1     1.2   1.2     4.9   4.0     2.8   3.1     2.6   2.8   2.4     0.7   3.2   4.3   5.7   4.2     2.2     1.4   1.7

EXER: U635  NATL % 61.9   (Text for this exercise was not released)

UNADJ EFFECT        -8.6  -9.0     8.6   4.9     0.8  -0.8     3.5 -23.6     2.9 -12.4     4.8  -1.8   6.7     3.1 -13.6 -12.3   1.7  -2.6     2.9     5.4  -6.6
STD ERROR            2.4   2.5     2.1   2.1     1.2   1.3     5.3   4.8     3.9   5.2     2.6   2.2   3.1     0.7   3.6   3.7   4.9   5.8     2.0     2.0   1.8
BAL   EFFECT        -9.2 -10.0     8.9   6.0     0.9  -0.9     2.2 -17.2     5.9 -12.8     0.7  -1.6   7.5     1.6  -6.0  -8.8   2.3  -0.7     2.5     3.4  -4.9
STD ERROR            2.1   2.9     2.1   2.1     1.2   1.2     5.2   5.9     3.7   4.0     2.5   2.1   3.1     0.8   3.8   4.8   4.7   5.8     1.9     1.9   1.7

EXER: U636  NATL % 61.5   (Text for this exercise was not released)

UNADJ EFFECT         0.5  -6.4    -0.5   5.0     1.9  -1.9    -9.2 -14.0    11.6  -4.5     5.5   1.1  -4.3     3.3 -20.0  -1.9  -7.4  -1.5     3.2     1.7  -2.7
STD ERROR            2.0   2.9     2.3   1.9     1.0   1.1     7.6   4.5     3.0   5.4     2.1   1.9   3.1     0.7   2.8   3.2   4.5   4.7     2.5     1.9   1.5
BAL   EFFECT        -2.3  -2.4     0.1   4.1     2.1  -2.2    -7.5  -6.6    10.4  -3.3     3.2   0.6  -4.2     2.5 -15.5  -0.9  -3.9   1.6     2.8     0.0  -1.8
STD ERROR            1.8   2.9     2.1   2.0     1.1   1.1     7.3   5.3     3.0   5.6     2.5   1.9   2.8     0.7   3.2   3.6   4.5   4.5     2.3     1.9   1.4

EXER: U637  NATL % 57.6   (Text for this exercise was not released)

UNADJ EFFECT        -0.1  -6.4     3.1   1.9     3.9  -3.8     5.1 -11.2     3.0   2.3     1.3   2.2  -5.9     1.2  -7.7   0.7 -10.3 -10.0     0.9     1.7   0.9
STD ERROR            2.2   2.4     2.8   2.3     1.3   1.3     4.3   4.4     3.7   2.7     2.9   2.3   3.3     0.7   3.5   3.3   6.1   5.7     2.6     1.8   1.9
BAL   EFFECT        -0.4  -5.2     2.8   1.6     4.0  -3.9     7.8  -9.1     0.5   0.6    -0.3   3.1  -4.4     0.7  -4.8   1.9 -10.7 -10.1     0.8     0.7   1.9
STD ERROR            2.3   3.3     2.8   2.3     1.3   1.3     4.9   4.9     3.8   2.7     3.1   2.3   4.0     0.7   4.0   3.2   6.2   5.6     2.5     1.9   1.8
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                                 REGION                SEX                       SIZE AND TYPE OF COMMUNITY                         COLOR                    HIGH SCHOOL EDUCATION

                                                                 EXTREME   INNER EXTREME   INNER   URBAN  MEDIUM   SMALL     NON
                      N.EAST  S.EAST CENTRAL    WEST    MALE  FEMALE   RURAL    CITY AFF SUB  FRINGE  FRINGE    CITY    CITY   BLACK   BLACK   OTHER    NONE    SOME  GRADUATED    POST UNKNOWN

EXER: U638  NATL % 56.5   (Text for this exercise was not released)

UNADJ EFFECT            -4.3     4.4     0.9    -0.6     1.3    -1.4     0.3    -4.1     3.1    -2.2    -2.7     1.0     1.3     1.3    -8.8    -4.4    -6.3    -9.3        1.3     1.9    -0.9
STD ERROR                2.8     2.9     2.3     2.8     1.3     1.3     4.9     3.7     4.6     2.7     4.4     3.0     2.7     0.6     4.3     4.3     4.9     5.4        2.1     1.8     1.7
BAL   EFFECT            -4.8     5.2     0.9    -0.8     1.4    -1.4    -0.3     1.1     2.0    -0.5    -2.1     0.8    -0.4     1.3    -9.4    -2.8    -7.2   -10.4        1.2     1.3     0.1
STD ERROR                2.7     2.6     2.4     2.9     1.2     1.3     5.4     3.3     4.3     2.7     3.9     2.8     2.6     0.7     4.2     5.0     4.9     5.4        2.1     1.8     1.8

EXER: U639  NATL % 54.4   (Text for this exercise was not released)

UNADJ EFFECT            -0.0    -1.8    -0.8     2.7     4.3    -4.4   -11.2   -20.1    19.6    -4.9     5.3    -2.2     0.9     4.6   -25.2   -14.2    -3.9    -9.3       -5.6    10.1    -6.3
STD ERROR                2.6     3.9     2.9     2.7     1.1     1.1     4.0     3.7     4.9     4.8     3.5     3.1     2.6     0.8     2.3     5.5     5.7     5.8        2.3     1.5     1.8
BAL   EFFECT            -2.7     3.6    -2.5     2.4     4.0    -4.0    -7.9    -6.0    13.8    -1.5     4.2    -3.5    -1.2     3.9   -21.2   -12.0    -0.3    -6.2       -4.5     7.9    -5.3
STD ERROR                2.6     2.9     2.6     2.8     1.1     1.1     4.4     4.7     4.7     4.4     3.4     2.6     2.5     0.8     3.4     5.9     5.1     5.6        2.3     1.4     1.6

EXER: U640  NATL % 53.8   (Text for this exercise was not released)

UNADJ EFFECT             1.8    -6.9    -3.9     7.5     5.7    -6.5   -19.4   -11.2     8.7    -3.8    -2.1     7.1     1.4     3.4   -16.5   -12.5   -13.5   -11.0       -2.8     9.7    -4.0
STD ERROR                3.1     4.2     3.3     3.8     1.1     1.2     5.8     3.6     5.0     6.1     3.4     4.1     4.6     0.7     3.6     4.0     5.5     5.4        2.4     1.7     2.3
BAL   EFFECT            -0.4    -5.7    -5.1    10.0     5.8    -6.5   -10.8    -1.0     4.7    -6.9    -4.1     7.3     0.7     2.6   -10.2   -13.3   -11.6    -9.4       -1.7     7.6    -3.2
STD ERROR                2.9     4.6     3.3     3.5     1.0     1.2     5.8     3.8     4.5     5.5     3.5     3.8     3.7     0.8     3.8     5.1     5.3     4.4        2.5     1.8     2.3

EXER: U641  NATL % 49.2   (Text for this exercise was not released)

UNADJ EFFECT             0.2    -2.7    -1.6     3.8     0.1    -0.1    -2.4   -14.0     8.3    -5.3    -1.7     3.5     2.5     3.0   -10.0   -17.2    -5.1     4.9       -2.0     6.9    -6.1
STD ERROR                2.1     3.0     2.5     2.8     1.4     1.4     6.5     2.9     4.2     4.3     2.3     3.2     2.5     0.6     3.0     3.8     6.1     4.5        2.3     1.8     1.7
BAL   EFFECT             0.3    -3.5    -2.2     5.1    -0.2     0.2     0.9    -5.4     3.6    -5.3    -2.7     2.8     1.8     2.5    -6.6   -18.1    -2.3     5.4       -1.7     5.7    -5.6
STD ERROR                2.2     3.3     2.6     2.4     1.4     1.3     6.5     3.8     3.8     4.1     2.2     3.1     2.4     0.7     3.6     4.1     5.8     4.1        2.3     1.8     1.6

EXER: U642  NATL % 48.3   (Text for this exercise was not released)

UNADJ EFFECT             3.9    -4.2    -1.5     1.5     1.4    -1.4    -2.7   -16.1     6.4    -2.3     8.7    -3.3    -1.6     3.5   -17.2   -15.0    -7.7    -4.8        3.8     5.4    -7.1
STD ERROR                2.0     2.4     2.1     2.6     1.3     1.3     7.8     4.2     3.2     3.3     2.4     2.5     2.3     0.7     3.8     5.1     4.2     3.9        2.1     1.6     1.9
BAL   EFFECT             1.8    -0.2    -3.6     2.5     1.2    -1.2     0.2    -4.5     2.7     0.3     6.8    -4.0    -3.1     3.1   -14.2   -14.4    -4.8    -1.7        4.0     4.2    -6.8
STD ERROR                1.8     1.9     1.9     2.3     1.2     1.2     8.4     3.9     3.3     3.2     2.2     2.3     2.1     0.7     4.4     5.5     4.6     4.0        2.2     1.5     1.9

EXER: U643  NATL % 41.6   (Text for this exercise was not released)

UNADJ EFFECT             2.6    -6.0     1.6     0.6     3.0    -3.2     4.6   -10.0     4.6    -1.6    -2.4    -1.0     1.7     1.0    -7.1     0.4    -4.4    -6.6        2.0     3.8    -4.3
STD ERROR                2.6     3.3     1.8     2.2     1.2     1.3     3.9     4.3     4.1     3.3     2.7     2.4     2.3     0.6     3.8     4.6     5.8     4.6        2.3     1.8     1.9
BAL   EFFECT             3.5    -6.6     1.5     0.3     2.8    -2.9     6.6    -9.2     3.7    -2.3    -3.9    -0.5     2.5     0.2    -3.7     4.9    -2.2    -5.1        2.0     3.3    -4.1
STD ERROR                2.6     3.1     1.8     2.4     1.2     1.3     4.5     4.1     4.3     3.2     2.7     2.3     2.3     0.6     3.6     5.0     6.0     4.6        2.3     1.7     1.8

EXER: U644  NATL % 41.3   (Text for this exercise was not released)

UNADJ EFFECT             2.4    -6.7     4.7    -3.2     3.2    -3.7   -14.2   -28.4    11.1    -6.7     1.9     2.1     4.2     3.9   -18.3   -15.9    -9.8     2.2       -0.6     6.6    -4.8
STD ERROR                3.0     3.9     3.1     2.9     1.2     1.4     5.8     3.3     5.1     5.3     3.6     3.1     3.6     0.8     3.5     4.8     4.8     4.6        2.2     1.8     1.8
BAL   EFFECT             0.4    -4.1     3.2    -1.0     2.9    -3.3   -10.2   -18.7     7.8    -3.8    -0.5     2.3     3.6     2.3   -10.0   -10.8    -6.8     4.6       -1.3     4.3    -3.0
STD ERROR                2.9     3.3     2.8     2.5     1.1     1.3     4.5     3.6     5.1     5.0     3.5     3.1     3.2     0.7     3.3     4.6     4.7     4.4        2.0     1.8     1.7
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EXER: 0645  NATL % 40.2   (Text for this exercise was not released)

UNADJ EFFECT        6.7  -10.7   -4.5    7.0    0.9   -0.9  -13.2  -14.2   22.4   -5.2    5.2    0.7   -3.2      2.3  -12.7   -2.4   -4.6  -12.1     -2.2        9.1   -5.8
STD ERROR           3.5    3.1    3.0    2.8    1.3    1.3    3.8    3.9    4.9    3.9    3.6    3.4    3.2      0.8    3.8    3.8    4.7    4.3      2.2        1.8    1.8
BAL   EFFECT        4.8   -8.0   -3.6    5.7    0.6   -0.6   -8.5   -9.5   16.4   -6.7    3.5    0.6   -1.5      1.2   -6.3   -1.1   -1.2   -8.6     -1.3        7.1   -5.4
STD ERROR           3.1    3.4    2.8    2.6    1.3    1.3    3.3    3.7    4.4    3.9    3.6    3.1    3.1      0.7    3.4    4.7    4.6    4.0      2.1        1.7    1.7

EXER: 0646  NATL % 38.7   (Text for this exercise was not released)

UNADJ EFFECT        7.6  -12.0   -0.0    1.5    0.3   -0.3   -3.7   -7.3    7.0   -4.7    6.5   -0.9   -4.5      1.7  -11.0   -0.1   -7.2   -9.4      1.4        9.0   -6.4
STD ERROR           2.9    3.1    2.4    2.7    1.3    1.4    3.9    3.8    5.7    4.2    3.2    3.0    3.4      0.6    3.3    3.3    4.6    5.2      2.6        1.6    2.0
BAL   EFFECT        7.1   -9.7   -0.3    0.5    0.0   -0.0    0.9   -3.8    5.4   -5.3    3.4   -1.2   -2.7      0.5   -4.7    3.1   -4.4   -6.8      1.1        8.2   -6.3
STD ERROR           3.0    3.5    2.5    2.7    1.3    1.3    3.7    4.5    5.1    4.1    3.4    2.6    3.5      0.6    3.3    3.5    4.3    4.9      2.5        1.6    2.0

EXER: 0647  NATL % 36.7   (Text for this exercise was not released)

UNADJ EFFECT        0.7   -7.6   -1.1    7.5    3.2   -3.2   -5.4  -15.7   10.3   -2.9    5.1   -2.7    1.3      2.1  -13.9   -1.2  -10.1   -1.8     -0.2        5.4   -4.7
STD ERROR           3.0    2.6    2.3    2.2    1.3    1.3    5.8    3.1    4.3    4.3    2.8    2.7    2.9      0.7    2.7    5.6    4.4    4.2      2.4        1.5    1.8
BAL   EFFECT       -0.3   -5.1   -2.0    7.4    2.8   -2.8   -3.1  -10.5    7.5   -2.8    3.4   -2.4    1.5      1.1   -7.1   -1.6   -7.2   -0.1      0.6        4.1   -4.3
STD ERROR           2.8    2.6    2.3    2.4    1.3    1.3    5.2    3.5    4.5    4.4    2.7    2.7    2.8      0.7    3.1    5.6    4.5    4.0      2.3        1.5    1.8

EXER: 0648  NATL % 37.6   (Text for this exercise was not released)

UNADJ EFFECT        7.0   -6.2    0.4   -3.1    3.1   -3.5  -12.7   -8.7   17.5   -4.2   -1.0   -0.7    0.2      3.1  -12.8  -15.4  -21.1   -7.9     -0.8        9.1   -4.8
STD ERROR           2.8    3.2    3.4    2.9    1.4    1.6    5.1    5.7    4.5    4.7    3.6    4.5    3.4      0.7    2.5    3.7    3.4    4.7      2.0        1.6    1.8
BAL   EFFECT        4.8   -4.6   -0.1   -1.5    2.9   -3.3   -5.2   -0.5   13.4   -4.1   -3.7   -0.9    0.5      1.9   -7.8   -9.2  -18.5   -4.8     -0.0        7.5   -4.3
STD ERROR           2.8    3.1    3.0    2.8    1.4    1.6    4.7    6.0    4.1    5.1    3.6    4.1    3.3      0.7    3.5    4.1    3.4    3.9      2.0        1.5    1.7

EXER: 0649  NATL % 36.8   (Text for this exercise was not released)

UNADJ EFFECT        4.7   -1.6   -4.6    2.1   -0.7    0.6   -7.4   -4.9    9.8    3.3    0.2    0.1   -1.4      0.8   -5.2    1.3   -5.4   -7.7      0.4        5.4   -4.2
STD ERROR           2.7    3.4    2.4    2.6    1.2    1.2    4.1    4.3    4.8    5.0    3.0    2.7    3.7      0.6    2.9    4.2    4.6    4.9      2.0        1.7    1.8
BAL   EFFECT        3.9    0.4   -4.2    0.9   -0.8    0.8   -5.9   -2.2    6.1    3.3    0.1   -0.3   -0.7      0.4   -3.6    2.4   -4.4   -6.2      0.7        5.0   -4.2
STD ERROR           2.8    3.5    2.3    2.7    1.2    1.2    4.5    5.1    4.9    5.1    2.8    2.6    3.7      0.7    3.2    4.7    4.5    4.8      2.0        1.7    1.7

EXER: 0650  NATL % 36.0   (Text for this exercise was not released)

UNADJ EFFECT        4.2   -5.9   -1.9    3.4    1.1   -1.2  -10.6  -11.1    9.0   -3.4   -2.9    3.6    1.5      0.9   -4.7   -4.8   -2.5  -12.9      0.9        6.2   -5.1
STD ERROR           2.8    2.9    3.3    3.1    1.3    1.4    6.2    4.2    4.0    5.4    4.1    2.8    4.2      0.6    4.5    4.3    6.0    4.8      2.2        2.0    1.9
BAL   EFFECT        3.6   -6.9   -0.9    3.6    0.9   -0.9   -7.0   -9.6    7.0   -3.9   -3.8    2.8    2.7      0.1    1.8   -3.7    0.2   -9.7      1.5        5.0   -5.1
STD ERROR           3.0    3.2    3.0    3.3    1.3    1.4    7.6    4.5    4.3    5.5    4.2    2.7    4.1      0.6    4.4    5.3    5.7    4.3      2.3        2.0    1.8

EXER: 0651  NATL % 34.2   (Text for this exercise was not released)

UNADJ EFFECT        0.9   -3.2    1.9   -0.3   -0.7    0.7   -7.1  -12.3   -2.3   -3.6    5.9    0.5    2.3      2.4  -14.9   -4.7   -1.7   -6.5     -1.9        5.8   -4.3
STD ERROR           2.1    2.8    2.1    2.2    1.3    1.3    4.5    3.3    4.5    4.3    2.6    2.3    2.3      0.7    2.9    5.9    5.0    4.0      2.5        1.4    1.9
BAL   EFFECT       -0.5   -0.5    1.4   -0.7   -0.9    0.9   -5.6   -4.9   -5.2   -2.6    5.0    0.2    1.6      1.8  -11.6   -1.7   -0.0   -5.1     -2.1        5.2   -3.9
STD ERROR           2.0    2.4    2.1    2.5    1.3    1.3    4.1    3.6    4.3    4.1    2.6    2.1    2.1      0.7    3.2    6.5    4.9    4.1      2.5        1.4    1.8
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: U652 NATL % 33.4 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.8	-1.6	1.0	0.8	4.7	-4.9	3.3	-5.6	-1.1	-2.6	2.0	-0.1	0.1	-0.2	0.6	1.3	-2.6	-3.4	-1.8	4.0	-1.3
STD ERROR	1.7	2.6	2.0	2.2	1.0	1.0	3.2	2.4	4.0	3.9	2.6	2.2	2.6	0.4	2.6	3.1	5.8	4.3	2.3	1.9	1.8
BAL EFFECT	-0.5	-1.3	0.5	0.9	4.7	-4.9	2.9	-7.8	-1.3	-3.8	1.8	0.7	0.9	-0.8	2.8	4.4	-4.3	-4.1	-1.7	3.9	-1.1
STD ERROR	1.8	2.6	2.0	2.3	1.0	1.1	3.7	3.0	4.1	3.8	2.5	2.2	2.5	0.6	2.9	3.8	6.0	4.3	2.2	1.9	1.7
EXER: U653 NATL % 21.9 (Text for this exercise was not released)																					
UNADJ EFFECT	-2.2	4.2	-3.4	3.2	0.9	-0.9	-1.9	-1.6	0.0	-1.0	-4.9	3.3	3.0	1.0	-7.7	2.5	3.1	-0.8	-0.5	-1.7	1.6
STD ERROR	1.7	2.1	1.7	1.5	1.0	1.1	3.7	2.5	2.8	4.2	1.7	2.1	1.7	0.4	2.4	3.3	4.0	3.3	1.8	1.5	1.3
BAL EFFECT	-2.7	5.3	-3.2	2.7	1.3	-1.3	-1.3	2.3	-2.0	0.6	-4.1	2.8	1.8	1.6	-10.2	-0.3	2.2	-1.3	-0.6	-1.7	1.9
STD ERROR	1.6	2.0	1.8	1.5	1.0	1.1	3.6	3.1	2.7	4.1	2.0	2.0	1.6	0.5	2.6	3.6	3.9	3.1	1.6	1.5	1.2
EXER: U654 NATL % 20.8 (Text for this exercise was not released)																					
UNADJ EFFECT	1.2	-5.0	-0.6	4.1	6.2	-6.0	-9.2	-10.2	12.9	-2.2	4.2	-5.7	1.9	2.0	-10.1	-4.6	0.8	-8.3	-5.2	8.8	-2.9
STD ERROR	2.1	2.4	2.3	2.8	1.0	1.0	3.9	3.4	5.0	3.5	2.6	3.0	2.6	0.6	2.5	4.2	5.4	3.2	1.7	2.0	1.4
BAL EFFECT	0.0	-2.9	-0.7	3.6	5.7	-5.5	-5.4	-6.4	8.2	-2.2	2.4	-5.0	3.3	1.2	-5.0	-5.0	3.0	-6.9	-4.2	6.4	-2.0
STD ERROR	2.3	2.4	2.8	2.8	1.0	0.9	3.7	3.6	5.3	3.6	2.5	3.1	2.3	0.6	2.8	4.1	5.3	3.5	1.7	1.9	1.4
EXER: U655 NATL % 14.5 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.7	-0.6	-0.7	2.2	1.0	-1.0	-3.1	9.7	4.9	-3.4	-1.8	1.1	-1.3	-0.3	2.4	-0.7	-3.6	1.3	-0.3	2.6	-1.8
STD ERROR	1.9	1.7	1.9	1.8	0.9	0.9	3.1	4.0	4.7	1.9	1.7	1.6	2.2	0.4	2.6	2.5	3.9	3.7	1.6	1.4	1.1
BAL EFFECT	-0.4	-0.9	-0.3	1.7	0.8	-0.8	-2.6	9.5	3.8	-2.9	-2.0	1.3	-1.0	-0.1	1.8	-2.8	-3.3	1.7	-0.0	2.4	-1.9
STD ERROR	1.9	1.8	2.0	2.1	0.9	0.9	3.2	4.4	5.0	2.0	1.8	1.7	2.3	0.4	2.5	3.0	3.8	3.8	1.5	1.3	1.1
EXER: U656 NATL % 12.7 (Text for this exercise was not released)																					
UNADJ EFFECT	0.2	0.3	0.9	-1.8	0.1	-0.1	3.3	-1.5	-0.5	1.3	0.6	-3.7	2.3	-0.1	-0.4	2.0	2.6	-3.0	0.3	1.1	-1.1
STD ERROR	1.4	2.2	2.2	1.6	0.7	0.8	3.6	2.1	2.8	2.1	2.8	1.5	2.0	0.4	1.8	3.2	2.7	2.8	1.7	1.4	0.9
BAL EFFECT	0.7	0.1	1.0	-2.3	-0.0	0.0	3.4	-2.0	-0.5	1.1	0.4	-3.5	2.5	-0.4	0.2	4.3	2.1	-3.1	0.1	1.2	-0.9
STD ERROR	1.6	2.1	2.0	1.5	0.7	0.8	3.5	2.3	2.8	2.2	2.6	1.4	1.9	0.4	2.0	3.3	2.6	2.8	1.7	1.3	0.9
EXER: U657 NATL % 11.6 (Text for this exercise was not released)																					
UNADJ EFFECT	2.5	-2.3	1.1	-1.9	2.6	-2.7	4.5	0.6	-1.5	2.1	-4.6	3.0	-0.1	-0.2	0.4	1.4	-2.5	3.8	0.8	-0.0	-0.7
STD ERROR	2.1	1.8	1.7	1.6	0.8	0.8	5.1	2.9	2.5	3.3	1.6	1.7	2.0	0.4	2.4	2.7	3.5	3.3	1.6	0.9	1.2
BAL EFFECT	3.2	-3.5	1.3	-1.9	2.5	-2.6	4.7	-0.4	-0.9	1.8	-5.4	3.3	0.3	-0.4	1.1	2.8	-2.2	4.9	0.4	0.4	-1.2
STD ERROR	1.9	1.9	1.5	1.4	0.8	0.8	4.9	3.0	2.3	3.3	1.7	1.7	2.0	0.5	2.6	2.9	3.6	3.4	1.7	0.9	1.1
OBJECTIVE: Possess the ability and skills needed to engage in the processes of science.																					
EXER: U658 NATL % 95.6 (Text for this exercise was not released)																					
UNADJ EFFECT	2.1	-3.7	1.0	0.1	-1.0	1.1	-5.1	-11.8	4.4	0.1	1.8	1.3	-0.3	1.8	-11.5	-7.2	-3.8	-5.8	1.7	1.9	-1.9
STD ERROR	0.7	1.5	0.9	1.0	0.4	0.5	3.6	3.7	0.6	1.5	0.9	1.0	1.0	0.5	3.0	2.9	2.8	3.9	0.5	0.6	0.7
BAL EFFECT	1.3	-3.2	1.0	0.4	-1.1	1.1	-3.5	-6.4	3.6	0.7	0.9	0.8	-0.9	1.4	-8.9	-5.9	-1.1	-3.5	1.7	0.9	-1.6
STD ERROR	0.7	1.0	0.8	0.8	0.4	0.4	2.5	3.4	0.6	1.3	0.9	0.9	0.9	0.4	2.6	3.0	2.6	3.6	0.5	0.5	0.6

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EXER: U659  NATL % 91.2   (Text for this exercise was not released)

UNADJ EFFECT     1.5   -4.6    1.6    0.1   -0.9    0.9   -7.9   -7.8    5.0   -0.3    0.6    1.7    1.1    2.0   -8.2   -7.5   -5.5   -1.6    0.6    3.7   -3.4
STD ERROR        1.2    1.9    1.3    1.2    0.8    0.7    4.7    3.0    1.4    2.2    1.8    1.1    1.4    0.4    1.9    2.5    3.8    2.4    1.1    0.9    1.1
BAL   EFFECT     0.9   -3.6    1.4    0.1   -1.1    1.0   -6.2   -1.8    3.0   -0.9   -0.7    1.5    0.9    1.5   -6.3   -5.8   -3.1   -0.7    1.0    3.1   -3.4
STD ERROR        1.2    1.5    1.2    1.0    0.7    0.7    4.1    2.8    1.4    2.0    1.6    1.0    1.2    0.4    1.9    2.6    3.6    2.5    1.1    0.8    1.0

EXER: U660  NATL % 91.1   (Text for this exercise was not released)

UNADJ EFFECT     1.1   -3.1    2.5   -1.6    0.6   -0.7  -19.3   -6.7    4.1    0.3    1.7    3.3    0.9    2.6   -8.0  -16.7   -9.1  -10.9    0.9    3.1   -0.6
STD ERROR        1.5    1.8    1.4    2.5    0.7    0.8    8.0    4.0    1.8    2.3    1.9    1.5    1.5    0.9    2.2    7.8    4.2    5.0    1.0    1.0    1.0
BAL   EFFECT    -1.0   -1.1    1.5    0.2    0.5   -0.5  -15.0   -1.1    2.0    1.2    0.4    2.6    0.6    1.9   -5.5  -12.5   -5.9   -7.0    1.1    1.7   -0.5
STD ERROR        1.2    1.7    1.5    1.3    0.7    0.8    6.4    3.8    1.8    2.6    1.7    1.4    1.3    0.7    2.3    5.4    3.2    3.5    1.0    0.7    0.8

EXER: U661  NATL % 87.1   (Text for this exercise was not released)

UNADJ EFFECT     2.8   -8.2    2.7    1.1   -0.4    0.4   -7.5  -15.0    7.5    0.7    5.6   -1.9   -2.3    4.3  -22.9   -6.7  -13.0  -10.0    2.6    4.3   -2.2
STD ERROR        1.8    3.6    2.0    1.8    0.8    0.8    8.1    6.2    2.3    3.7    2.0    2.6    2.4    1.0    3.4    4.1    6.9    4.8    1.3    1.3    1.1
BAL   EFFECT     0.1   -2.4    1.4    0.3   -0.9    0.8   -1.3   -0.5    4.7    0.9    2.4   -2.3   -2.7    3.9  -20.8   -5.6  -10.5   -8.3    2.7    2.3   -1.2
STD ERROR        1.5    2.0    1.9    1.7    0.8    0.7    4.2    5.9    2.0    2.8    1.8    1.9    1.9    0.9    3.2    4.3    5.6    4.7    1.4    1.0    1.1

EXER: U662  NATL % 81.2   (Text for this exercise was not released)

UNADJ EFFECT     5.7  -13.0    5.7   -2.5    0.8   -1.0  -27.0  -24.1    8.7   -6.4    8.3    0.8    1.3    4.3  -19.9  -17.3  -21.0   -4.4    1.1    7.6   -3.9
STD ERROR        1.9    3.9    2.0    2.3    0.8    0.9    9.4    3.9    2.3    4.8    2.3    2.4    2.3    0.8    3.2    4.5    5.3    3.2    1.9    1.5    1.6
BAL   EFFECT     2.4   -7.4    3.3   -0.6    0.4   -0.5  -19.8  -14.0    4.3   -4.0    5.4    1.3    0.8    2.6  -11.0  -12.0  -15.8    0.0    1.4    4.6   -2.8
STD ERROR        1.7    2.5    1.7    2.1    0.8    0.9    7.7    4.2    2.1    3.4    2.1    2.1    1.9    0.7    3.2    3.9    4.4    2.7    1.8    1.2    1.5

EXER: U663  NATL % 76.2   (Text for this exercise was not released)

UNADJ EFFECT     2.6   -5.9    2.2   -0.8    1.8   -1.7   -1.1  -24.2    4.5    6.1    0.6    0.2    4.5    4.7  -18.6  -19.6   -1.7    0.3    3.6    4.1   -6.7
STD ERROR        2.8    3.0    2.2    2.4    1.0    1.0    5.1    5.3    6.6    4.0    2.7    2.5    2.2    0.9    3.9    3.3    4.6    4.5    2.0    1.8    2.0
BAL   EFFECT     2.5   -5.6    0.7    0.9    1.5   -1.5    2.1  -10.8    0.5    5.6   -1.9   -0.7    3.7    3.8  -13.8  -18.5    2.4    0.1    3.4    2.9   -5.8
STD ERROR        2.7    2.5    1.9    2.5    1.0    0.9    4.0    4.9    6.7    4.4    2.6    2.4    2.1    0.8    3.7    3.7    4.3    4.3    1.9    1.8    1.9

EXER: U664  NATL % 74.4   (Text for this exercise was not released)

UNADJ EFFECT     4.0  -11.4    2.8    1.1    0.3   -0.4  -18.8  -23.1    8.3   -5.3    6.9    0.6    3.7    4.9  -25.6  -15.4   -9.1   -3.5    4.1    6.2   -8.0
STD ERROR        2.0    2.5    2.3    2.4    1.1    1.3    3.8    3.1    2.1    3.7    2.4    2.8    2.3    0.8    1.9    4.6    5.6    3.5    1.9    1.4    1.7
BAL   EFFECT     1.0   -8.3    1.9    3.0   -0.1    0.1  -11.1   -9.8    4.4   -4.4    3.4   -0.1    3.0    3.5  -17.1  -12.7   -5.7    1.4    4.8    3.5   -7.2
STD ERROR        1.9    2.3    1.8    2.0    1.1    1.2    3.8    3.2    1.9    3.3    2.3    2.3    1.9    0.7    2.0    5.1    5.8    3.6    1.8    1.3    1.5

EXER: U665  NATL % 70.3   (Text for this exercise was not released)

UNADJ EFFECT     3.1   -7.5    5.4   -2.8   -1.3    1.3   -4.5  -35.7   13.8    1.8    6.1   -2.4    1.3    5.5  -27.3  -21.7  -23.3  -14.6    0.9    9.3   -6.0
STD ERROR        2.1    4.2    2.5    2.5    1.0    1.0    6.3    3.0    3.3    3.6    2.9    3.2    2.3    0.9    3.4    6.0    5.5    4.9    2.4    1.6    1.8
BAL   EFFECT     0.3   -1.9    2.6   -1.6   -1.8    1.8   -0.6  -21.2    8.3    4.0    3.5   -3.0    0.2    3.8  -19.1  -15.2  -19.0  -10.8    0.4    7.2   -4.4
STD ERROR        2.1    2.9    2.3    2.4    1.0    1.0    3.6    2.9    3.3    3.5    2.8    2.8    2.4    0.8    3.3    5.1    5.5    4.8    2.1    1.5    1.8
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                                REGION                  SEX                         SIZE AND TYPE OF COMMUNITY                        COLOR                  HIGH SCHOOL EDUCATION

                                                                    EXTREME  INNER EXTREME INNER  URBAN  MEDIUM SMALL    NON
                     N.EAST S.EAST  CENTRAL  WEST      MALE   FEMALE  RURAL   CITY  AFF SUB FRINGE FRINGE  CITY   CITY   BLACK  BLACK  OTHER NONE  SOME  GRADUATED  POST UNKNOWN

EXER: 0666  NATL % 66.5    (Text for this exercise was not released)

UNADJ EFFECT           1.4   -6.6     3.1    0.6      0.2    -0.2     4.9  -13.9    7.3   -6.0    2.3   -3.9    2.1     3.8  -17.7  -12.0  -5.5  -2.0     -0.1      5.9  -3.9
STD ERROR              2.4    2.3     2.7    2.4      1.1     1.1     6.8    5.3    3.1    5.3    3.1    2.5    2.5     0.7    3.2    4.3   7.3   5.1      1.8      1.7   1.6
BAL   EFFECT           0.6   -4.1     1.5    1.2     -0.1     0.1    10.8   -0.2    3.8   -5.1   -1.0   -4.0    2.1     3.7  -16.4  -13.0  -3.4  -1.2     -0.2      4.5  -3.1
STD ERROR              2.3    2.3     2.5    2.3      1.1     1.1     3.8    6.1    2.9    4.7    2.9    2.1    2.5     0.7    3.3    4.4   7.1   5.0      1.8      1.7   1.5

EXER: 0667  NATL % 63.4    (Text for this exercise was not released)

UNADJ EFFECT          10.8   -6.9     4.4  -12.4      3.6    -4.1   -16.1  -33.1   13.3  -16.6    1.8    3.1    7.9     6.6  -29.2  -29.0  -4.5 -12.2      1.3     10.9  -8.2
STD ERROR              2.1    3.3     1.9    2.6      1.1     1.3     6.2    4.8    3.6    4.5    2.6    2.4    2.2     1.0    3.4    4.6   4.1   4.6      1.9      1.6   1.6
BAL   EFFECT           7.8   -3.5     1.9   -8.6      3.0    -3.4    -9.2  -15.1    6.4  -10.2   -2.5    3.7    6.7     4.4  -20.8  -16.4  -1.6  -9.8      0.1      7.9  -5.5
STD ERROR              2.1    2.2     1.8    2.1      1.0     1.3     4.6    4.2    3.2    4.0    2.2    2.3    1.8     0.9    4.0    4.8   3.7   4.8      1.7      1.6   1.5

EXER: 0668  NATL % 63.7    (Text for this exercise was not released)

UNADJ EFFECT           4.6  -12.0     5.0   -0.3     -0.9     0.8    -5.9  -23.5    7.2   -2.3    9.0   -3.5   -1.7     6.0  -27.9  -18.3 -16.8 -13.6      5.3      8.3  -6.5
STD ERROR              2.3    1.2     2.6    2.3      1.1     1.1     9.4    4.6    4.6    5.4    2.6    2.5    2.7     1.0    3.2    4.7   6.2   4.8      2.5      1.9   1.8
BAL   EFFECT           1.9   -6.3     2.4    0.7     -1.6     1.6     2.8   -3.7    2.7   -1.5    4.3   -3.9   -1.8     5.1  -22.9  -16.9 -12.5 -11.5      5.1      6.1  -5.4
STD ERROR              2.0    2.2     2.3    1.9      1.1     1.1     5.6    4.3    3.5    4.5    2.3    1.8    2.3     0.9    3.5    4.9   5.5   4.3      2.5      1.6   1.7

EXER: 0669  NATL % 52.7    (Text for this exercise was not released)

UNADJ EFFECT           8.5    1.3    -0.5   -9.6     -1.5     1.5    -3.4   -7.9   11.9   -4.1   -1.3   -0.4    2.4     2.3   -8.8  -14.5 -12.3   2.6     -1.0      6.9  -6.4
STD ERROR              2.8    3.2     2.8    3.2      1.3     1.3     7.4    5.5    4.8    3.8    3.9    2.3    3.5     0.7    3.8    5.2   4.8   4.3      2.4      2.0   1.8
BAL   EFFECT           7.8    2.6    -1.5   -8.9     -1.6     1.6    -0.5   -0.1    8.9   -2.2   -1.9   -1.7    1.3     1.7   -8.2   -7.2 -11.3   4.3     -1.5      5.9  -5.4
STD ERROR              2.7    1.1     2.6    2.9      1.3     1.3     7.0    4.8    4.6    3.6    3.8    2.3    3.3     0.7    3.8    5.3   4.8   4.3      2.5      2.0   1.9

EXER: 0670  NATL % 47.9    (Text for this exercise was not released)

UNADJ EFFECT           0.4   -4.2     2.7   -0.4      3.9    -4.5    -7.2  -17.1    0.7   -8.5    5.0    0.4    3.1     2.9  -12.0  -13.7  -6.7  -0.2      2.8      6.3  -6.9
STD ERROR              1.9    2.6     2.4    2.1      1.2     1.4     8.0    4.5    5.1    4.0    2.3    2.3    2.9     0.6    3.3    4.7   4.9   4.1      2.1      1.8   1.8
BAL   EFFECT          -0.9   -2.5     0.4    2.8      3.6    -4.2    -4.6   -8.3   -2.7   -5.7    3.6    0.7    2.1     2.0   -7.4  -11.5  -5.3   1.1      2.4      4.9  -5.8
STD ERROR              1.7    2.2     2.3    2.5      1.1     1.3     6.6    5.4    5.1    3.8    2.1    2.3    2.7     0.7    3.6    5.1   4.9   4.3      2.0      1.7   1.7

EXER: 0671  NATL % 31.3    (Text for this exercise was not released)

UNADJ EFFECT           2.8  -10.3     6.0   -2.3      3.7    -3.8    -6.3  -18.6   -0.4   -0.0    9.4   -3.6    3.8     2.2   -8.4  -10.7   2.4  -1.6     -0.3      7.0  -6.0
STD ERROR              2.2    2.2     3.1    2.4      1.1     1.2     5.3    2.5    3.7    3.6    4.1    2.6    2.8     0.6    2.6    3.3   6.0   4.8      2.5      1.6   1.7
BAL   EFFECT           1.9   -8.8     5.4   -1.9      3.3    -3.5    -5.9  -15.5    1.1   -0.7    6.0   -3.4    5.3     0.5   -1.7   -2.5   3.7   0.4     -0.9      5.9  -5.1
STD ERROR              2.5    2.2     2.8    2.4      1.1     1.1     6.1    2.9    3.4    3.4    3.9    2.7    2.6     0.5    2.3    3.4   6.1   4.3      2.2      1.6   1.5

EXER: 0672  NATL % 19.2    (Text for this exercise was not released)

UNADJ EFFECT           1.0   -2.9     3.7   -2.8      0.8    -0.9    -4.6   -1.7    6.9    3.1    4.4   -3.9   -4.2     0.9   -3.3   -5.3  -5.8  -9.0     -0.9      6.2  -3.3
STD ERROR              1.7    2.5     2.0    1.6      0.8     1.0     3.5    3.1    4.7    2.8    2.7    1.9    1.6     0.5    2.5    3.1   3.4   2.5      1.5      1.3   1.1
BAL   EFFECT          -0.5   -0.2     3.4   -3.0      0.6    -0.7    -2.8    0.4    5.4    4.6    3.3   -4.1   -3.8     0.4   -1.8   -1.3  -4.6  -6.4     -0.8      5.7  -3.5
STD ERROR              1.8    2.5     2.1    1.7      0.9     1.0     3.3    3.5    5.1    2.8    2.4    2.1    1.6     0.5    2.6    3.2   3.6   2.5      1.6      1.3   1.1
```

```
EXER: 0673  NATL % 11.8   (Text for this exercise was not released)

UNADJ EFFECT      2.9  -0.2  -1.2  -1.2   1.3  -1.3   3.1   8.6  -1.8   0.5  -1.4   1.6  -2.7  -0.9   3.3   5.3  -0.3   6.2   0.3  -2.1   1.3
STD ERROR         1.6   2.1   1.7   1.4   0.7   0.7   2.2   3.5   2.5   2.8   1.9   1.9   1.9   0.4   2.0   3.9   3.0   3.8   1.4   1.0   1.1
BAL   EFFECT      2.9  -0.6  -0.9  -1.2   1.4  -1.4   3.1   6.1  -0.7   0.5  -1.5   1.6  -2.7  -0.5   2.0   3.8  -0.8   7.0   0.3  -1.6   0.7
STD ERROR         1.6   2.2   1.8   1.5   0.7   0.7   2.3   3.3   2.6   2.8   1.8   1.8   2.0   0.4   2.0   4.0   2.8   3.8   1.4   1.0   1.1

OBJECTIVE:    Understand the investigative nature of science.

EXER: 0674  NATL % 93.8   (Text for this exercise was not released)

UNADJ EFFECT      2.0  -4.0   2.4  -2.0  -0.8   0.9 -10.8 -10.3   5.5  -3.6   1.8   1.8   0.5   2.1  -7.9 -11.5  -6.4  -7.3   1.7   3.5  -2.1
STD ERROR         0.8   1.6   0.9   1.5   0.5   0.6   4.5   3.5   0.9   3.1   1.0   1.1   1.0   0.5   1.7   4.1   2.9   2.9   1.0   0.8   0.9
BAL   EFFECT      0.4  -1.8   1.3  -0.6  -1.0   1.1  -8.1  -5.4   3.4  -1.8   0.6   2.1  -0.1   1.4  -4.9  -8.6  -4.4  -5.9   1.5   2.3  -1.4
STD ERROR         0.7   1.4   0.9   0.9   0.5   0.5   4.0   3.5   0.8   2.0   1.1   1.1   1.0   0.4   1.9   3.4   3.1   2.8   0.9   0.7   0.8

EXER: 0675  NATL % 75.1   (Text for this exercise was not released)

UNADJ EFFECT      1.1  -4.7   4.2  -2.2  -2.1   2.4 -28.1 -28.9  15.2  -4.9   3.0   5.0   3.8   7.0 -26.9 -37.3 -20.1 -19.7   1.2  10.2  -5.3
STD ERROR         2.4   2.6   2.3   3.8   0.9   1.0   9.0   5.9   2.2   3.4   3.3   2.2   2.8   1.3   2.4   7.1   5.5   4.3   1.4   1.2   1.7
BAL   EFFECT     -3.6  -1.4   2.6   1.9  -2.4   2.6 -18.1 -11.6   9.3  -2.2  -0.1   2.8   2.7   5.2 -19.4 -29.0 -14.3 -12.2   1.7   6.6  -4.1
STD ERROR         2.0   2.1   1.8   1.8   0.9   1.0   5.4   3.9   1.9   2.8   3.0   1.8   2.0   1.0   2.4   5.2   4.4   3.8   1.5   0.9   1.6

EXER: 0676  NATL % 41.7   (Text for this exercise was not released)

UNADJ EFFECT      6.9  -2.8  -3.8  -0.1  -0.1   0.1  -8.0 -17.4   9.7   0.7   1.9   1.0   2.1   2.4 -11.4  -6.0  -2.4 -11.3   2.3   5.9  -5.8
STD ERROR         2.9   3.3   2.5   2.8   1.3   1.2   5.4   3.3   5.5   3.0   4.1   2.6   3.0   0.7   2.9   4.4   4.6   4.8   2.3   1.6   1.6
BAL   EFFECT      6.4  -1.4  -4.0  -0.5  -0.3   0.3  -5.4 -11.5   4.9   0.4   0.8   0.4   2.9   1.3  -6.8  -2.1  -0.4  -9.9   2.0   5.1  -5.3
STD ERROR         2.6   2.8   2.4   2.8   1.3   1.3   5.0   3.6   5.3   2.9   3.9   2.4   2.9   0.7   3.0   5.0   4.6   5.0   2.2   1.7   1.5

EXER: 0677  NATL % 33.4   (Text for this exercise was not released)

UNADJ EFFECT      2.8   6.2  -5.6  -1.1  -1.4   1.4  -9.3  -2.2   6.1   2.8   0.8   2.3  -3.9  -0.2  -1.9   7.6  -7.0  -0.8  -2.0   7.2  -5.9
STD ERROR         2.4   2.4   2.5   2.8   1.1   1.2   3.6   3.4   4.1   4.7   3.8   2.8   2.8   0.6   3.5   4.7   4.3   5.3   2.3   1.6   1.6
BAL   EFFECT      2.9   7.8  -4.7  -3.8  -1.5   1.6  -8.1  -3.7   2.9   5.5   1.8   2.1  -3.7  -0.8  -0.6  12.3  -8.3  -2.0  -1.4   7.3  -6.1
STD ERROR         2.2   2.1   2.7   3.1   1.1   1.1   4.0   4.0   3.5   4.3   3.7   2.9   2.9   0.7   3.8   4.7   4.4   5.4   2.2   1.5   1.7

EXER: 0678  NATL % 26.1   (Text for this exercise was not released)

UNADJ EFFECT     -2.4   2.2   0.6  -0.2  -3.5   3.7 -13.0 -11.4   5.6  -5.8  -0.4   3.4   3.4   1.2  -2.8 -11.7  -4.6 -11.2  -2.1   6.8  -3.5
STD ERROR         2.1   2.8   2.1   2.5   1.3   1.3   3.8   3.7   4.0   3.2   2.7   2.5   2.7   0.5   3.5   2.6   4.6   3.0   1.7   1.6   1.7
BAL   EFFECT     -3.7   1.8   1.5   0.5  -3.6   3.9 -13.1  -8.3   4.0  -3.6  -1.0   3.9   2.5   0.4   1.8  -8.1  -1.6  -9.5  -2.3   5.9  -3.1
STD ERROR         2.0   2.3   1.9   2.4   1.2   1.3   3.8   4.0   4.0   3.1   2.6   2.8   2.5   0.5   4.2   2.6   5.0   3.2   1.7   1.6   1.7

EXER: 0679  NATL % 22.1   (Text for this exercise was not released)

UNADJ EFFECT      0.3  -2.4   2.0  -0.4  -0.3   0.3  -7.4 -11.5   8.9  -4.3  -1.7   3.0   0.6   2.4 -12.6 -13.1  -7.1  -1.4  -1.2   6.2  -4.7
STD ERROR         2.1   2.8   2.2   2.1   0.9   1.0   2.5   2.0   4.4   2.8   2.8   2.4   2.0   0.4   2.1   2.4   4.3   4.8   2.0   1.5   1.4
BAL   EFFECT     -0.8  -2.9   3.0   0.2  -0.5   0.6  -5.8  -4.8   7.5  -2.4  -2.9   2.8  -0.6   1.8  -8.9 -11.0  -4.0   1.3  -1.2   4.8  -4.0
STD ERROR         2.1   2.4   2.0   2.1   0.9   1.0   2.8   2.6   4.4   2.9   2.4   2.3   2.3   0.4   2.4   3.0   4.3   4.7   1.9   1.6   1.4
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OBJECTIVE: Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: U680 NATL % 86.0 (Text for this exercise was not released)																					
UNADJ EFFECT	2.8	-6.2	-2.1	4.5	-4.7	4.9	-9.5	-5.6	2.6	-2.9	1.7	1.5	2.1	1.3	-7.2	-2.2	-14.5	-5.4	-0.4	4.9	-1.2
STD ERROR	1.7	2.3	2.2	1.5	1.1	1.1	5.7	2.0	3.2	3.5	2.9	1.8	1.8	0.5	2.4	3.2	4.0	3.3	1.7	1.0	1.3
BAL EFFECT	2.2	-5.1	-1.7	3.8	-4.5	4.6	-5.3	-2.7	0.8	-3.3	0.3	0.8	2.8	0.7	-3.0	-2.6	-12.5	-3.3	-0.4	4.3	-1.3
STD ERROR	1.7	2.3	1.8	1.4	1.0	1.0	5.7	3.0	3.5	3.6	2.6	1.8	1.6	0.5	2.8	3.6	3.6	3.1	1.5	1.0	1.3
EXER: U681 NATL % 83.4 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.7	-2.5	1.2	1.4	0.8	-0.7	-3.0	-14.6	0.5	0.8	5.7	-2.8	0.3	2.4	-10.7	-9.0	-5.9	-9.6	1.8	5.5	-3.7
STD ERROR	1.8	2.1	1.5	1.8	1.1	1.1	6.2	4.0	3.9	3.0	1.5	1.9	1.6	0.6	2.7	3.6	4.5	3.9	1.5	1.2	1.4
BAL EFFECT	-1.9	-0.3	-0.3	2.7	0.4	-0.4	0.1	-7.3	-2.2	2.3	4.1	-3.2	0.3	1.9	-7.8	-8.7	-4.5	-8.7	1.8	4.4	-3.1
STD ERROR	1.6	1.8	1.5	1.8	1.1	1.1	5.0	4.7	3.8	2.5	1.3	1.9	1.5	0.7	3.1	4.0	4.3	4.1	1.5	1.2	1.5
EXER: U682 NATL % 72.0 (Text for this exercise was not released)																					
UNADJ EFFECT	2.5	-6.8	3.0	-0.4	2.4	-2.5	-0.2	-32.7	13.2	-5.8	0.6	4.7	-2.4	4.4	-21.0	-18.4	-22.2	-5.4	-0.5	9.4	-6.9
STD ERROR	2.5	3.5	2.1	2.7	1.1	1.2	4.4	3.7	2.7	4.4	2.8	2.0	2.5	0.8	4.3	4.6	5.3	5.1	2.6	1.3	2.0
BAL EFFECT	2.2	-6.2	1.7	1.2	2.1	-2.2	3.6	-22.6	8.4	-5.2	-1.7	4.5	-1.2	2.5	-13.0	-8.0	-15.7	-3.3	-0.1	7.1	-5.7
STD ERROR	2.3	3.0	2.1	2.1	1.2	1.2	5.4	3.9	3.0	4.0	2.6	1.8	2.3	0.7	3.9	4.1	5.1	4.9	2.5	1.2	1.9
EXER: U683 NATL % 70.7 (Text for this exercise was not released)																					
UNADJ EFFECT	3.6	-7.1	0.7	2.0	1.9	-2.0	-8.0	-13.8	12.1	1.2	0.7	1.6	-3.0	2.6	-12.5	-16.2	-17.6	0.4	-0.7	6.0	-3.7
STD ERROR	2.0	2.4	2.0	2.0	1.2	1.3	5.3	3.9	3.0	3.2	2.4	1.9	2.6	0.6	4.3	2.9	5.8	5.4	2.2	1.7	1.8
BAL EFFECT	1.9	-7.3	1.5	3.2	1.7	-1.9	-3.5	-6.9	10.1	2.0	-0.8	0.6	-3.2	2.1	-7.9	-16.6	-13.4	4.5	-0.1	4.2	-3.4
STD ERROR	1.9	2.1	1.9	2.0	1.2	1.3	3.9	4.4	3.4	3.0	2.5	1.8	2.2	0.6	4.2	3.6	5.7	5.5	2.1	1.8	1.8
EXER: U684 NATL % 62.5 (Text for this exercise was not released)																					
UNADJ EFFECT	4.7	-8.9	-1.7	4.1	0.6	-0.5	-9.3	-13.4	12.6	4.1	5.4	-1.1	-2.9	3.1	-11.6	-14.4	-9.0	-8.9	-4.5	7.4	-2.3
STD ERROR	2.4	2.3	2.1	1.9	1.3	1.3	3.4	3.6	3.6	3.4	2.9	2.6	2.3	0.7	3.3	3.5	5.9	5.9	2.5	1.5	1.7
BAL EFFECT	3.0	-5.8	-2.6	4.7	0.4	-0.4	-4.2	-6.1	6.2	3.4	3.8	-1.6	-2.1	2.4	-7.4	-14.7	-5.2	-6.6	-3.9	6.0	-2.1
STD ERROR	2.4	2.6	2.1	1.8	1.4	1.3	3.3	4.1	3.7	3.2	2.8	2.5	2.4	0.7	3.4	3.7	5.9	6.0	2.5	1.5	1.8
EXER: U685 NATL % 46.5 (Text for this exercise was not released)																					
UNADJ EFFECT	-1.4	-11.8	4.4	6.5	-0.1	0.1	-12.5	-15.2	10.1	-1.0	-0.8	3.0	1.5	3.4	-20.2	-0.7	-5.9	-3.5	0.8	4.8	-3.4
STD ERROR	2.7	3.7	2.9	2.6	1.4	1.4	7.5	4.8	5.3	6.2	2.7	3.1	3.2	0.9	3.5	4.8	7.1	5.6	2.5	2.1	1.7
BAL EFFECT	-3.3	-8.9	5.1	5.0	-0.4	0.3	-8.4	-6.6	7.0	-1.8	-3.8	3.6	2.9	2.5	-14.3	-1.8	-2.9	-3.2	1.1	2.8	-2.3
STD ERROR	2.6	3.6	2.5	2.6	1.3	1.3	5.4	4.8	5.1	5.8	2.7	2.6	2.6	0.7	3.3	4.8	6.2	5.4	2.5	2.2	1.6
EXER: U686 NATL % 43.8 (Text for this exercise was not released)																					
UNADJ EFFECT	2.5	-5.2	3.4	-2.5	2.3	-2.3	3.0	-12.9	-1.0	-2.1	7.8	0.2	-4.6	1.8	-7.6	-9.9	-2.5	-4.8	1.2	3.3	-5.4
STD ERROR	2.2	2.4	2.8	3.0	1.3	1.3	5.4	3.5	3.8	4.3	2.6	3.4	2.2	0.6	3.3	4.8	4.1	4.8	2.4	1.5	2.4
BAL EFFECT	2.2	-3.7	2.1	-1.8	2.0	-2.1	3.6	-8.0	-2.1	-1.4	6.6	-0.1	-4.5	1.0	-3.9	-6.3	0.2	-2.4	0.8	2.7	-4.7
STD ERROR	2.2	2.9	2.8	3.2	1.3	1.3	5.3	4.0	4.0	4.3	2.7	3.4	2.4	0.7	3.5	5.8	4.1	4.7	2.3	1.5	2.3

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EXER: U687  NATL % 29.8   (Text for this exercise was not released)

UNADJ EFFECT        3.7  -4.8    0.6  -0.8    3.6  -3.8   -6.2  -0.5    0.3   4.7   1.1  -1.7   1.9    0.7  -4.0   -0.6 -10.1  -8.1    3.6    1.6  -1.5
STD ERROR           2.4   1.7    1.7   1.5    1.1   1.2    3.3   2.8    2.5   3.2   2.9   1.8   1.9    0.4   2.6    2.8   3.9   3.7    2.2    1.6   1.6
BAL   EFFECT        2.9  -3.5    0.5  -0.9    3.7  -3.9   -4.7   1.3   -0.3   4.0  -0.8  -1.6   3.2    0.3  -2.4    0.7 -10.0  -7.2    3.8    1.5  -1.6
STD ERROR           2.2   1.8    1.9   1.6    1.1   1.2    3.1   3.6    2.7   3.4   2.9   1.8   1.8    0.5   2.7    3.4   3.9   3.7    2.1    1.6   1.6

                                                     AGE  13

OBJECTIVE:    Know the fundamental facts and principles of science.

EXER: R201  NATL % 98.5    A human baby comes from its mother's body.

UNADJ EFFECT        0.9   1.0    0.5  -2.5    0.2  -0.2    0.2  -9.0    1.5  -0.3   1.1   1.3  -0.1    1.0  -5.6   -1.0  -1.0   1.2    0.2    1.2  -7.8
STD ERROR           0.8   0.8    0.9   2.4    0.3   0.3    1.0   8.4    0.8   1.2   0.8   0.8   1.0    0.8   4.8    1.1   1.7   0.8    0.8    0.8   7.0
BAL   EFFECT        0.6   1.5    0.2  -2.8    0.4  -0.3   -0.6  -6.0    1.0   1.5   1.0   0.8   1.3    0.4  -3.5  -98.1  -1.4   1.1    0.3    0.9  -6.3
STD ERROR           0.8   1.3    0.8   2.5    0.4   0.3    0.6   6.0    0.6   2.4   0.7   0.4   0.8    0.2   2.4    3.3   1.5   0.6    0.8    0.6   5.3

EXER: R202  NATL % 98.2    Teeth are brushed to keep them from decaying.

UNADJ EFFECT        0.5  -1.8   -0.4   1.3   -0.3   0.4   -4.1  -1.6    0.1   0.3   0.2   0.9   0.8    0.7  -2.7   -2.2  -2.7  -1.0   -0.1    0.4   0.6
STD ERROR           0.4   0.9    0.5   0.4    0.3   0.3    1.7   1.1    0.9   0.7   0.6   0.4   0.5    0.2   1.0    1.4   1.9   1.2    0.4    0.4   0.5
BAL   EFFECT        0.2  -1.3   -0.4   1.3   -0.4   0.4   -3.0   0.0   -0.8   0.4  -0.3   0.7   0.7    0.7  -2.6   -2.5  -1.7  -0.4   -0.2    0.1   1.2
STD ERROR           0.4   0.6    0.4   0.4    0.3   0.3    1.4   1.3    0.8   0.6   0.6   0.4   0.5    0.3   1.1    1.4   1.6   1.1    0.4    0.3   0.6

EXER: R203  NATL % 92.7    Thick dark-gray clouds are more likely than others to bring rain on a summer day.

UNADJ EFFECT        0.5  -0.8    2.7  -2.5    1.0  -0.8    0.4  -2.1   -0.1  -2.4   1.5  -0.2   1.0    0.7  -1.7   -2.4  -1.2  -0.7    0.4    0.8  -3.1
STD ERROR           1.0   1.0    1.0   1.2    0.6   0.5    2.3   1.9    1.6   1.9   1.5   1.4   1.0    0.3   1.7    2.2   3.9   1.6    0.9    0.6   2.4
BAL   EFFECT        0.4  -0.4    2.6  -2.6    0.8  -0.8    0.3  -1.0   -0.1  -2.2   0.9  -0.1   0.8    0.4  -2.8    0.3  -2.9  -0.3    0.0    0.7  -2.0
STD ERROR           1.2   1.1    1.1   1.3    0.5   0.5    2.5   2.1    1.5   1.9   1.8   1.3   1.2    0.4   2.0    2.2   3.8   1.7    1.0    0.6   2.4

EXER: R204  NATL % 89.4    Choose from five alternatives, the best balanced meal.

UNADJ EFFECT        0.9  -4.4    2.7  -0.6   -2.3   2.0   -3.9  -7.7    4.4  -1.2   2.7   1.7  -1.8    2.4  -8.5  -14.1  -8.7  -3.1   -1.2    4.6 -11.2
STD ERROR           1.4   1.6    1.2   1.4    0.7   0.6    2.9   2.8    1.9   3.2   1.4   1.6   1.7    0.5   1.9    3.3   5.4   1.9    1.2    0.7   3.4
BAL   EFFECT       -0.8  -2.6    1.6   1.1   -1.8   1.7   -4.7  -0.5    1.2   2.3   1.6   0.8  -1.7    1.9  -5.3  -13.8  -3.8  -1.9   -1.1    3.7 -10.3
STD ERROR           1.4   1.8    1.1   1.5    0.7   0.6    2.5   2.9    1.8   2.0   1.5   1.5   1.6    0.5   2.2    3.5   4.4   1.8    1.1    0.7   3.5

EXER: R205  NATL % 85.7    A school room is most comfortable around 70 degrees F.

UNADJ EFFECT        5.8 -10.6    5.0  -2.8    1.6  -1.4  -15.4 -15.0    7.3   2.0   2.3   5.2  -2.5    4.8 -23.4  -13.2 -14.3  -5.9   -0.5    4.0  -6.5
STD ERROR           1.5   3.2    1.6   2.1    0.8   0.8    3.3   4.1    2.0   3.0   2.7   1.8   2.9    0.9   3.5    3.7   4.9   3.0    1.3    0.7   3.1
BAL   EFFECT        4.0  -4.5    3.1  -4.1    1.3  -1.2   -7.7  -0.8    2.9   4.2  -0.2   1.5  -2.3    4.0 -19.9  -10.0 -10.0  -1.3   -0.6    2.2  -3.8
STD ERROR           1.1   2.2    1.1   1.7    0.8   0.7    3.4   4.0    1.8   2.7   2.4   1.4   2.1    0.9   3.7    4.3   4.2   2.6    1.2    0.7   2.9

EXER: R206  NATL % 78.5    Fanning a fire makes it burn better because fanning increases the supply of oxygen to the fire.

UNADJ EFFECT        1.9  -9.0    3.7   1.7    3.6  -3.0  -12.3 -28.5    8.8  -4.5   1.9   5.4   4.4    6.6 -28.4  -27.3 -10.3 -10.1   -3.0    7.6 -15.3
STD ERROR           2.1   3.1    1.6   2.2    1.1   1.0    7.7   3.9    2.4   3.8   2.2   2.2   2.2    1.0   2.6    5.2   6.0   3.7    1.5    1.1   3.7
BAL   EFFECT        1.0  -3.8    0.9   1.3    3.6  -3.1   -3.3  -7.8    2.2  -1.1  -1.4   1.1   3.7    5.3 -21.9  -23.0  -5.0  -5.5   -3.0    5.2  -9.6
STD ERROR           1.8   2.2    1.5   1.8    1.1   1.0    5.5   3.5    2.5   3.5   2.0   1.8   2.0    0.9   2.9    4.9   4.5   3.6    1.4    1.0   3.6
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
ITEM: R207 NATL % 77.9 Cancer is a disease that cannot, at present, be controlled by a vaccine.																					
UNADJ EFFECT	1.6	-3.4	0.6	0.9	0.2	-0.1	-4.4	-14.9	8.8	-4.6	4.1	2.2	-1.9	3.3	-17.3	-9.9	-10.3	-7.5	-3.3	6.2	-7.7
STD ERROR	1.8	2.1	1.8	1.6	1.0	1.0	5.2	2.9	2.5	3.3	2.2	1.9	2.4	0.6	2.6	3.8	6.2	2.9	1.5	1.2	2.7
BAL EFFECT	0.5	-0.6	-0.1	0.1	-0.1	0.1	-2.6	-6.7	5.8	-2.7	2.1	0.9	-1.6	2.4	-13.4	-6.0	-7.3	-5.3	-3.2	4.8	-4.6
STD ERROR	1.8	2.0	1.7	1.5	0.9	0.9	4.5	3.2	2.4	3.0	2.3	1.9	2.1	0.6	2.8	3.8	6.4	3.1	1.5	1.3	2.8
ITEM: R208 NATL % 74.7 Even without atmosphere on the moon, a rocket can be launched.																					
UNADJ EFFECT	0.5	-3.3	-0.8	3.5	3.4	-3.3	-2.5	-11.9	5.1	4.4	3.9	1.7	-3.9	2.9	-12.8	-7.7	-10.1	-2.4	-0.9	1.5	3.4
STD ERROR	2.2	2.4	1.8	1.8	1.0	1.0	3.5	2.9	3.7	3.5	2.0	2.0	2.9	0.7	2.9	4.4	4.9	3.1	1.8	1.3	2.6
BAL EFFECT	-0.9	-0.3	-2.0	4.0	3.3	-3.1	0.3	-6.6	2.8	5.0	2.2	1.4	-4.1	2.6	-11.2	-9.7	-6.3	-0.4	-1.0	0.2	5.9
STD ERROR	2.0	2.2	1.6	1.7	1.1	1.0	3.8	3.3	3.1	3.6	2.1	1.9	2.8	0.8	3.0	4.2	5.0	3.5	1.8	1.3	2.7
ITEM: R209 NATL % 65.1 Sedimentary rock is usually formed in layers.																					
UNADJ EFFECT	1.5	-1.4	1.9	-2.1	2.9	-2.6	-7.5	-30.6	11.9	-6.0	5.7	-0.1	4.7	5.2	-24.5	-20.0	-10.3	-1.9	-3.3	6.4	-14.1
STD ERROR	3.0	3.5	3.4	2.9	1.0	1.0	5.7	4.7	4.4	5.5	4.0	3.0	3.5	0.7	2.9	6.4	5.6	3.0	1.6	1.2	4.0
BAL EFFECT	0.8	0.2	1.2	-2.0	2.6	-2.5	-6.4	-19.6	9.0	-2.7	2.9	-1.5	4.2	3.6	-17.0	-13.8	-4.8	1.6	-3.9	4.4	-8.2
STD ERROR	3.0	3.5	2.9	2.8	1.0	1.0	5.8	5.3	4.6	4.3	4.1	2.9	3.6	0.7	2.8	6.2	5.2	2.8	1.5	1.1	3.4
ITEM: R210 NATL % 63.2 The earliest men on earth were probably small, hairy, and stooped.																					
UNADJ EFFECT	7.5	-7.7	-1.1	0.2	4.1	-3.7	-13.6	-7.4	4.7	-7.4	5.6	4.5	-3.0	2.4	-12.0	-3.1	-15.3	-4.5	-1.7	5.2	-5.6
STD ERROR	2.3	3.0	2.2	2.9	1.3	1.3	3.7	2.5	3.7	5.3	3.3	2.5	2.7	0.9	4.3	4.0	4.5	3.2	1.7	1.3	3.7
BAL EFFECT	5.6	-3.9	-1.5	-0.6	4.0	-3.7	-9.7	-3.7	2.1	-6.6	3.6	3.8	-2.0	1.2	-7.0	0.9	-10.5	-1.8	-2.2	4.0	-3.6
STD ERROR	2.2	2.6	2.1	3.2	1.3	1.2	3.1	3.2	3.9	5.1	3.2	2.5	2.4	0.9	4.2	3.6	4.9	3.1	1.6	1.3	3.4
ITEM: R211 NATL % 61.3 In hot water the molecules are moving faster than in cold water.																					
UNADJ EFFECT	2.4	-10.6	5.8	-0.7	0.6	-0.4	-15.1	-19.8	11.4	-2.7	-0.4	1.0	4.4	4.5	-24.4	-10.7	-16.4	-9.2	-0.9	5.9	-9.3
STD ERROR	2.2	2.8	2.7	2.8	1.4	1.3	6.9	5.6	5.4	4.1	2.4	2.5	3.4	0.7	3.1	4.3	5.3	5.3	1.5	1.5	4.1
BAL EFFECT	1.5	-5.5	3.8	-1.7	0.3	-0.3	-4.6	-7.2	8.2	-1.0	-2.6	-0.6	2.8	3.4	-18.9	-7.4	-10.6	-6.9	-1.7	4.8	-6.1
STD ERROR	2.0	2.9	2.3	2.8	1.4	1.3	7.4	4.7	4.4	3.7	2.4	2.4	3.0	0.7	3.3	4.2	6.5	6.0	1.6	1.6	4.2
ITEM: R212 NATL % 59.4 The movement and characteristics of air masses are important in predicting weather.																					
UNADJ EFFECT	3.9	-10.7	6.3	-3.3	0.8	-0.5	-6.2	-18.1	6.5	-6.6	4.2	2.5	-0.2	5.9	-25.2	-18.1	-19.2	-13.0	0.7	7.2	-11.9
STD ERROR	1.9	3.0	1.9	2.2	1.1	1.0	5.7	4.1	3.2	4.5	2.1	2.6	2.6	0.9	2.6	4.4	4.4	4.5	1.5	1.6	3.4
BAL EFFECT	1.6	-4.9	3.8	-2.5	0.3	-0.3	1.7	-1.5	1.4	-2.8	0.1	0.7	-0.5	4.8	-21.1	-13.1	-11.8	-9.6	-0.8	5.6	-6.7
STD ERROR	1.7	2.5	1.8	2.0	1.1	1.0	4.8	3.3	3.1	3.8	1.9	2.1	2.1	0.9	2.6	4.7	4.7	4.4	1.6	1.5	3.6
ITEM: R213 NATL % 57.4 A human action such as draining a swamp can upset the ecology of a small area.																					
UNADJ EFFECT	5.1	-10.0	2.3	0.0	0.5	-0.4	-14.0	-30.2	12.3	-5.5	6.0	2.7	1.1	7.2	-35.4	-21.9	-15.5	-15.3	-7.4	12.1	-11.4
STD ERROR	3.2	3.1	2.6	2.9	1.4	1.5	5.8	4.2	3.5	4.8	3.3	3.1	3.4	1.0	2.3	4.2	6.0	3.4	2.0	1.6	5.8
BAL EFFECT	2.9	-4.4	1.6	-1.3	-0.1	0.1	-2.9	-9.3	5.5	-1.0	1.7	-0.6	0.2	5.6	-28.0	-16.2	-8.1	-11.9	-6.6	9.8	-7.8
STD ERROR	2.4	2.4	2.0	3.1	1.2	1.4	4.[illegible]	4.3	3.7	4.3	2.9	2.5	3.2	0.9	3.2	4.5	6.0	3.7	1.9	1.7	4.5

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EXER: R214  NATL % 54.8    Determine the appropriate position for a weight on a beam in order to balance another weight.

UNADJ EFFECT      5.6   -9.5    4.0   -3.3    3.3   -2.7   -5.2  -25.1   12.6   -5.2    2.8    2.1    1.8    5.5  -27.6  -15.4  -20.6   -6.4   -1.8    7.2  -12.7
STD ERROR         1.9    2.8    2.4    2.5    1.4    1.2    7.1    4.1    3.9    4.2    2.5    2.3    3.0    1.0    2.3    5.6    5.1    3.0    1.5    1.2    4.1
BAL   EFFECT      4.0   -4.3    1.7   -3.0    3.7   -3.4   -4.4   -8.6    7.6    0.1   -1.1    0.2    2.1    4.2  -21.7  -10.0  -16.4   -3.6   -1.4    4.8   -7.2
STD ERROR         1.9    2.8    1.9    2.2    1.3    1.2    6.5    4.1    3.5    2.8    2.4    2.0    2.5    0.8    2.6    5.0    4.9    2.9    1.5    1.1    4.1

EXER: R215  NATL % 52.7    Flower seeds develop from the ovules rather than leaves, petals, roots, or stems.

UNADJ EFFECT     -0.4   -6.3    5.6   -1.6   -4.5    4.5   -9.9  -22.8   12.8  -19.8    4.8    3.7    4.1    7.6  -32.1  -23.9  -21.0  -16.3   -0.7    8.4   -8.6
STD ERROR         2.7    3.6    2.7    3.0    1.3    1.2    4.6    7.4    7.0    4.0    3.0    2.9    1.5    1.1    2.8    4.6    4.9    3.5    1.9    1.6    4.6
BAL   EFFECT     -3.0    0.8    2.2   -0.4   -5.1    4.9   -2.1   -7.3    6.8  -14.9    1.0    1.3    2.9    6.5  -28.1  -18.6  -12.6  -13.4   -2.3    6.1   -0.3
STD ERROR         2.8    2.7    2.4    2.7    1.3    1.2    4.7    4.8    5.8    4.1    2.7    2.8    3.0    1.0    3.0    4.2    4.1    3.3    1.8    1.4    4.0

EXER: R216  NATL % 51.0    The apparent bending of a spoon in a glass of water is explained by refraction of light.

UNADJ EFFECT      5.8   -2.6    0.4   -3.6    2.1   -1.9   -3.8  -17.4   10.7   -6.0    8.3   -0.1   -2.5    3.6  -17.0  -13.7  -11.8   -6.1   -3.9    6.1   -5.3
STD ERROR         3.2    3.8    3.0    2.5    1.2    1.2    5.3    4.0    3.7    4.7    3.4    3.7    3.1    0.7    2.8    3.1    4.8    3.8    1.8    1.4    3.7
BAL   EFFECT      4.4    0.0    0.1   -4.2    1.8   -1.7   -1.9   -9.7    8.5   -4.3    5.3   -1.1   -1.9    2.4  -12.2   -8.2   -7.9   -3.5   -4.3    4.6   -1.5
STD ERROR         3.2    3.7    3.0    2.8    1.2    1.2    4.9    4.0    3.6    4.1    3.5    3.6    3.2    0.7    3.4    3.0    4.8    3.9    1.8    1.4    3.7

EXER: R217  NATL % 48.3    Most of the chemical energy expended in an automobile engine is not used to move the car but is changed to heat.

UNADJ EFFECT     -3.0    6.7   -0.4   -2.4    1.4   -1.2   -1.6   -6.4    2.1   -9.3   -1.9    4.8    2.2    0.5   -3.2    0.4    2.5   -2.4   -1.5    1.4   -1.2
STD ERROR         2.8    3.3    2.4    2.5    1.2    1.1    4.5    3.7    4.2    3.5    2.7    3.1    3.5    0.7    3.9    5.8    5.1    3.5    1.8    1.5    4.0
BAL   EFFECT     -4.0    7.8   -0.1   -2.7    1.6   -1.4   -5.0   -6.5    3.2   -8.6   -0.6    4.8    1.0   -0.1   -2.1    5.6    0.9   -3.7   -1.1    1.1    1.6
STD ERROR         3.0    3.6    2.7    2.7    1.2    1.0    5.3    4.1    4.4    3.6    3.0    2.9    3.6    0.8    4.0    6.1    5.2    3.5    1.8    1.5    3.9

EXER: R218  NATL % 45.2    Mercury can be used in a glass thermometer because when heated it expands more than the glass.

UNADJ EFFECT      1.7   -6.4    3.5   -0.8   10.0   -8.5   -1.7  -14.9   -0.8   -3.1    4.4    1.6    2.0    2.4  -15.2   -0.4   -3.2   -3.7   -0.8    3.2   -7.5
STD ERROR         2.8    3.5    2.6    2.5    1.4    1.2    5.6    3.4    3.6    2.7    3.4    3.2    3.9    0.7    2.6    5.1    5.0    3.7    1.6    1.3    3.1
BAL   EFFECT      0.1   -3.3    3.4   -1.5    9.6   -8.7   -1.7   -6.7   -3.7   -0.9    3.2    0.9    1.6    1.8  -12.0    1.5   -4.3   -2.2   -1.0    2.6   -4.9
STD ERROR         2.6    3.3    2.4    2.4    1.4    1.2    5.4    4.3    3.6    2.5    3.2    3.0    3.3    0.8    3.8    4.8    5.3    3.7    1.5    1.2    3.4

EXER: R219  NATL % 40.8    Pasteurization of milk kills bacteria harmful to man.

UNADJ EFFECT      2.1   -6.0    3.3   -1.2   -2.7    2.7  -13.9  -18.5   11.6   -3.8    3.9    0.1    0.9    4.0  -19.8  -13.8  -10.8  -11.4   -5.5    7.5   -2.8
STD ERROR         2.4    3.1    2.9    2.5    1.3    1.2    3.5    4.9    5.3    5.9    2.8    2.9    3.3    0.7    3.2    5.0    5.8    3.6    1.8    1.7    5.0
BAL   EFFECT      0.3   -0.9    2.1   -2.3   -2.8    2.6   -7.2   -7.3    8.4   -2.7    2.1   -1.1    0.2    3.2  -16.1  -10.3   -4.8   -8.8   -6.1    6.5   -0.5
STD ERROR         2.3    3.1    2.6    2.4    1.3    1.2    4.8    5.5    5.3    4.7    2.8    2.5    3.1    0.7    3.1    4.6    6.5    3.8    1.7    1.7    4.8

EXER: R220  NATL % 39.0    A block of wood is more buoyant in salt water than in fresh water.

UNADJ EFFECT      3.3   -4.3   -2.9    3.4    7.1   -6.7  -12.5  -11.5    6.1   -9.4    4.8    3.7    1.0    2.5  -16.4   -2.8  -12.9  -15.5   -2.1    6.3   -2.9
STD ERROR         2.4    2.4    2.1    2.3    1.4    1.2    4.2    2.6    2.5    3.7    2.2    2.7    2.1    0.5    2.2    3.6    4.5    3.6    1.9    1.5    3.8
BAL   EFFECT      2.8   -1.7   -3.1    2.0    6.6   -6.4  -10.6   -3.8    2.7   -7.7    2.1    2.3    2.4    1.7  -12.3    0.6  -11.6  -13.4   -1.7    5.1   -1.2
STD ERROR         2.3    2.0    1.8    2.2    1.3    1.2    3.9    2.5    2.6    3.6    2.3    2.6    1.8    0.5    2.2    3.3    4.6    3.5    1.9    1.4    3.5
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                          REGION                   SEX                   SIZE AND TYPE OF COMMUNITY                      COLOR                 HIGH SCHOOL EDUCATION

                                                                  EXTREME  INNER EXTREME  INNER  URBAN MEDIUM  SMALL    NON
                     N.EAST S.EAST CENTRAL   WEST    MALE FEMALE   RURAL   CITY APF SUB FRINGE FRINGE   CITY   CITY  BLACK  BLACK  OTHER   NONE   SOME GRADUATED  POST UNKNOWN

EXER: R221  NATL % 38.2   Most caves are formed by the action of underground water on limestone.

UNADJ EFFECT           -0.2    0.8    -1.8    1.7     3.2   -2.9    -8.1  -11.2    4.1  -13.9    3.4    1.2    6.9    2.5  -14.0   -4.1   -8.0   -7.7    -3.1      6.8  -10.4
STD ERROR               2.7    2.9     2.8    2.2     1.5    1.2     3.4    5.0    5.3    3.1    2.8    3.3    2.9    0.6    3.1    5.2    5.5    3.1     1.6      1.5    2.8
BAL   EFFECT           -2.7    4.5    -2.5    2.5     3.4   -3.1    -6.9   -1.1   -0.5  -11.8    2.8    0.5    5.7    2.3  -13.3   -2.1   -8.3   -7.5    -3.1      6.1   -6.9
STD ERROR               2.5    2.5     2.6    2.1     1.3    1.1     3.4    5.0    5.1    2.9    2.6    3.0    2.9    0.6    2.5    4.8    5.0    2.9     1.6      1.4    3.3

EXER: R222  NATL % 38.4   In terms of natural selection, choose the best explanation of why giraffes have long necks.

UNADJ EFFECT           -7.9    0.6     7.0    0.1    -1.2    1.3    -2.4    0.6   -2.6   -3.9    4.8    0.5   -0.6   -0.3    0.3    2.5    2.0    3.4    -3.6      2.3   -3.6
STD ERROR               2.2    2.5     2.5    2.1     1.0    1.1     4.0    3.2    3.0    3.8    3.2    2.6    2.2    0.5    2.5    3.5    4.7    4.3     2.0      1.5    4.3
BAL   EFFECT           -8.5    1.5     6.9    0.1    -0.9    1.0    -4.4    1.5   -1.9   -3.5    5.8    0.6   -1.8   -0.3   -0.5    4.5    1.0    3.2    -3.4      2.2   -3.3
STD ERROR               2.3    2.6     2.5    2.1     1.0    1.2     4.3    3.7    2.9    3.0    3.2    2.5    2.3    0.5    2.6    3.8    4.9    4.4     1.9      1.4    4.2

EXER: R223  NATL % 36.1   A body covering of feathers distinguishes birds from all other animals.

UNADJ EFFECT           -0.5   -1.6     0.5    1.4     2.0   -2.2    -1.0  -15.0   13.1  -12.3    3.2    0.3   -0.1    3.0  -15.8   -6.7   -2.4   -4.5    -2.8      5.0   -8.8
STD ERROR               2.8    2.7     2.2    2.1     1.1    1.0     4.0    3.4    3.4    3.1    3.0    2.6    2.2    0.6    2.3    4.2    5.0    2.9     1.7      1.3    3.1
BAL   EFFECT           -2.1    1.9    -1.3    2.4     2.7   -2.5    -0.6   -5.4    9.8  -11.3    2.6   -0.4   -1.2    2.5  -13.0   -6.5    0.7   -3.3    -2.4      3.2   -4.2
STD ERROR               2.4    2.4     1.8    1.9     1.1    1.0     4.0    3.9    3.4    3.4    2.7    2.4    2.3    0.6    2.9    4.2    5.4    2.9     1.6      1.3    3.0

EXER: R224  NATL % 33.9   Our knowledge of atoms is based on observation of how matter behaves.

UNADJ EFFECT           -2.5   -3.1     3.1    1.5     5.5   -4.9   -12.0  -10.8    8.2   -1.5    5.7    0.9   -3.6    1.8   -8.4   -7.4  -23.4   -6.0    -2.0      5.7   -5.5
STD ERROR               2.5    2.5     2.8    3.2     1.4    1.3     5.2    4.8    5.8    3.7    2.5    2.9    3.2    0.5    3.2    4.4    3.4    3.0     1.7      1.2    2.8
BAL   EFFECT           -5.2    1.9     2.3    1.2     5.4   -4.9    -9.1   -6.0    7.3   -1.1    5.8    0.0   -4.9    1.2   -5.5   -5.2  -18.1   -3.9    -1.9      4.8   -5.8
STD ERROR               2.4    2.5     2.5    3.2     1.4    1.3     5.5    4.5    5.6    3.3    2.6    2.7    3.3    0.5    3.2    4.2    3.2    2.8     1.7      1.3    2.8

EXER: R225  NATL % 31.5   A good thing to do when someone faints is to have him lie down and keep warm.

UNADJ EFFECT            3.2   -7.7    -0.5    4.0     2.7   -2.3    -1.3   -9.8    2.3   -4.8    4.4    1.6   -0.2    3.3  -15.4   -5.4   -8.9   -3.0    -2.3      4.9   -5.5
STD ERROR               2.5    2.6     2.1    2.0     1.2    1.0     5.0    4.2    4.5    3.6    2.0    3.2    2.6    0.8    2.2    3.3    5.2    2.7     1.8      1.8    2.7
BAL   EFFECT            2.3   -4.3    -2.5    3.9     2.2   -2.1     2.5    0.3   -2.8   -4.4    2.2   -0.8    0.0    2.9  -13.1   -6.2   -5.9   -0.9    -1.9      3.5   -4.8
STD ERROR               2.5    2.7     2.0    1.9     1.1    1.1     3.9    3.7    4.2    3.8    2.2    3.1    2.6    0.7    2.5    3.1    4.9    2.7     1.7      1.3    2.6

EXER: R226  NATL % 27.4   A different substance is formed when a candle burns.

UNADJ EFFECT           -0.6   -2.3     4.7   -2.2     4.1   -4.1     4.5   -7.7    3.7   -0.5   -1.9    3.0   -2.3    2.0   -9.7   -2.1    1.7    0.2    -3.4      2.6   -0.2
STD ERROR               2.2    2.6     2.7    2.3     1.0    1.0     4.2    2.2    3.8    3.7    2.7    3.2    2.5    0.6    2.2    3.2    5.7    2.9     1.3      1.1    3.4
BAL   EFFECT           -0.6   -0.0     3.5   -3.0     3.9   -3.8     4.8   -1.9    2.2   -0.6   -2.3    2.1   -2.9    1.6   -8.6   -0.2    2.9    1.3    -3.3      2.0    0.3
STD ERROR               2.3    2.4     2.8    2.4     1.0    1.0     4.2    3.1    4.3    3.4    2.7    3.3    2.3    0.7    2.7    3.9    5.2    2.9     1.2      1.1    3.2

EXER: R227  NATL % 25.9   In mammals the cerebrum is the center of memory and intelligence.

UNADJ EFFECT            1.1    4.4    -1.6   -2.9    -1.6    1.3    -2.4   -9.0    6.0   -6.3    0.2    1.6    1.6    0.8   -5.3    0.8  -12.3   -2.9    -0.3      3.1   -5.4
STD ERROR               2.8    2.4     2.7    2.5     1.0    0.9     4.3    4.7    5.9    3.8    2.7    3.3    2.8    0.6    3.0    6.8    3.4    2.8     1.5      1.3    3.0
BAL   EFFECT            0.6    6.7    -2.1   -3.8    -1.2    1.1    -2.2   -6.6    4.9   -4.1   -0.1    1.3    1.1    0.1   -4.2    7.9  -14.1   -3.7     0.1      2.7   -2.8
STD ERROR               2.8    2.6     2.9    2.3     1.0    0.9     4.5    5.4    5.9    3.9    2.7    3.4    2.8    0.7    3.4    6.3    3.8    2.8     1.4      1.3    3.2
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EXER: R228  NATL % 25.9    The presence of an ocean fish fossil on a mountain outcrop is best explained by the hypothesis that the mountain was
                           raised up after the fish had died.

UNADJ EFFECT      -0.2   -6.1    5.4    0.0    3.4   -3.1   -3.2  -11.9    5.1   -2.3   -0.4    4.2    1.5    3.4  -15.0   -7.6  -11.7   -8.3   -2.0    5.6   -2.2
STD ERROR          2.3    2.2    2.1    1.8    1.2    1.1    2.8    2.6    3.0    4.4    2.6    1.8    2.8    0.7    1.8    4.4    4.5    2.3    1.5    1.3    3.4
BAL   EFFECT      -1.0   -2.5    3.8   -0.6    2.8   -2.7   -0.6   -3.1    1.0   -2.1   -1.9    2.6    1.3    2.4  -11.1   -4.1   -8.9   -6.4   -1.8    4.8   -1.0
STD ERROR          2.1    2.1    2.0    1.7    1.1    1.1    2.7    3.2    3.5    3.9    2.5    1.9    2.6    0.6    1.9    4.6    4.4    2.2    1.6    1.3    3.2

OBJECTIVE:    Possess the abilities and skills needed to engage in the processes of science.

EXER: R229  NATL % 92.2    Given a table listing the weights of several elements in the human body, choose the most common element (oxygen).

UNADJ EFFECT       2.0   -3.3    1.9   -1.1   -1.3    1.4   -3.1   -6.8    4.5    2.1    1.2   -0.5    1.4    1.8   -6.1   -8.3   -7.6   -1.0   -0.7    2.4   -3.4
STD ERROR          1.0    1.0    0.9    1.0    0.6    0.6    2.2    2.3    1.3    1.8    1.1    1.0    1.2    0.4    1.3    3.3    3.8    1.9    0.8    0.7    2.1
BAL   EFFECT       1.4   -2.1    1.3   -1.0   -1.7    1.6   -2.0   -2.0    3.5    2.8    0.0   -1.6    1.4    1.3   -4.4   -6.6   -4.8    0.3   -0.7    1.8   -3.3
STD ERROR          1.0    1.0    0.9    0.9    0.6    0.5    2.0    2.3    1.3    1.6    1.0    1.0    1.3    0.4    1.6    3.3    3.6    2.0    0.8    0.7    2.1

EXER: R230  NATL % 82.9    Wind or sun are the most likely causes that paint on one side of a house does not last as long as paint on the other
                           sides.

UNADJ EFFECT      -0.1  -10.1    4.7    4.1    0.4   -0.1   -3.0  -20.2   11.5   -6.1    1.1    1.9    1.5    5.4  -24.1  -22.7  -18.0   -7.2   -1.1    6.3  -12.2
STD ERROR          1.6    2.4    1.4    1.2    1.1    1.0    4.1    6.4    1.9    4.4    1.8    1.7    1.8    0.8    3.0    5.5    4.8    2.8    1.5    0.9    3.7
BAL   EFFECT      -0.6   -8.3    2.9    4.8    0.1   -0.1   -1.2   -8.4    8.0   -3.5   -2.4   -0.2    2.5    4.2  -17.5  -19.9  -10.6   -2.9   -1.7    4.0   -6.4
STD ERROR          1.2    1.8    1.4    1.0    1.0    0.9    2.9    3.9    1.6    2.3    1.5    1.4    1.5    0.6    2.8    8.3    4.7    2.7    1.3    0.8    3.1

EXER: R231  NATL % 80.9    Given a table listing the weights of several elements in the human body, choose the least common element.

UNADJ EFFECT       6.7  -11.6    3.9   -0.8    0.2    0.5   -9.0  -13.0   10.1   -0.8    2.7    7.2   -3.8    5.5  -22.4  -16.9  -25.4   -7.6   -1.7    7.5   -6.4
STD ERROR          1.9    3.8    2.0    1.9    1.5    1.1    4.6    4.0    2.9    4.3    2.2    1.9    2.5    1.3    4.3    5.2    6.1    3.0    1.3    1.3    3.9
BAL   EFFECT       4.0   -5.5    1.7   -1.1   -0.9    0.9   -4.1    2.3    5.0    0.1   -1.0    3.6   -3.6    4.5  -18.2  -13.8  -18.6   -3.7   -1.4    5.4   -6.0
STD ERROR          1.6    2.2    1.7    1.5    1.0    1.0    2.7    4.8    2.6    3.7    1.7    1.5    2.0    1.2    4.0    5.1    5.6    2.5    1.3    1.1    3.5

EXER: R232  NATL % 75.1    From pictures showing three solids of the same size floating, determine which is the heaviest.

UNADJ EFFECT       2.2   -2.6    0.8   -1.1    2.2   -1.5    4.1   -3.0    1.4   -5.1    0.4   -0.1    0.5    2.2  -10.9   -2.8   -3.3    3.0   -3.4    2.5   -1.3
STD ERROR          1.8    2.8    1.7    2.3    1.1    1.0    2.2    3.3    3.7    3.7    2.5    2.2    2.4    0.7    3.0    3.5    4.2    3.0    1.6    1.2    3.1
BAL   EFFECT       2.1   -1.5    0.4   -1.4    1.5   -1.4    6.4    1.9   -0.2   -3.8   -1.2   -0.8    0.5    2.2  -11.2   -2.9   -1.2    3.8   -4.0    2.1    0.8
STD ERROR          1.8    2.6    1.8    2.6    1.1    1.0    2.8    3.6    3.9    3.6    2.6    2.1    2.1    0.8    3.2    3.8    4.2    3.0    1.6    1.2    3.0

EXER: R233  NATL % 70.9    Interpret a graph showing the effect of different diets on the weight of guinea pigs.

UNADJ EFFECT       6.3  -13.8    2.1    2.7   -2.4    2.1  -18.0  -25.7   14.1   -7.2    5.6    2.7   -0.4    6.2  -34.1  -13.4  -20.4  -19.5   -3.4   10.4  -11.1
STD ERROR          2.2    3.0    2.8    2.2    1.2    1.1    6.2    6.2    3.1    6.0    2.6    2.6    2.9    0.9    4.2    4.3    7.1    3.4    1.5    1.2    3.3
BAL   EFFECT       3.4   -6.4    0.4    1.4   -2.2    2.0   -3.9   -7.1    7.9   -4.4    2.2   -0.1   -1.0    5.0  -28.0  -10.6  -11.8  -15.3   -4.3    8.6   -7.4
STD ERROR          1.7    2.5    2.1    1.8    1.1    1.0    4.2    5.8    3.0    4.2    2.4    1.9    2.4    0.8    3.9    3.9    6.3    3.5    1.5    1.2    3.1

EXER: R234  NATL % 62.5    Operate a beam balance.

UNADJ EFFECT       8.4  -14.1    2.9   -1.3    6.6   -5.1  -11.3  -18.8   -6.2   14.4    0.3    7.0   -0.6    4.0  -23.3   -5.0  -12.5   -2.3   -4.0    6.1  -16.5
STD ERROR          3.5    4.1    4.1    4.5    2.3    2.0    8.7    7.3    7.2    6.9    3.7    3.8    5.1    1.2    5.6    9.3   12.2    6.1    2.9    2.4    6.9
BAL   EFFECT       5.5   -9.7    3.0   -1.7    5.0   -4.4   -9.5   -3.1   -8.9   15.7   -4.0    4.5    1.1    3.3  -19.3   -4.2   -8.5   -0.4   -3.6    4.4   -9.9
STD ERROR          3.4    4.4    3.9    4.4    2.3    1.9    8.6    8.2    6.9    8.0    3.9    3.7    4.9    1.3    5.8    9.3   14.0    6.1    2.8    2.3    7.9
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: R235 NATL % 62.1 Given data from four weight experiments, determine which one provides strongest evidence that one object is heavier than another.																					
UNADJ EFFECT	3.2	-8.0	5.7	-3.9	-0.7	0.8	-7.0	-15.8	9.0	-11.4	3.0	4.9	0.4	4.8	-18.7	-25.3	-18.2	-4.0	-2.8	9.0	-21.7
STD ERROR	2.2	2.6	2.0	2.5	1.2	1.1	5.1	4.3	3.7	6.4	2.8	2.5	2.8	0.8	2.7	4.5	6.4	3.2	1.7	1.1	4.1
BAL EFFECT	0.6	-4.9	3.4	-0.7	-0.0	0.0	-8.2	-0.9	3.3	-4.2	0.4	3.0	0.6	3.7	-13.3	-22.0	-9.8	-1.7	-2.8	6.8	-17.9
STD ERROR	1.7	2.0	1.7	2.0	1.1	1.0	4.3	3.5	3.3	4.4	2.2	2.1	2.3	0.8	1.0	4.0	5.2	3.1	1.6	1.2	4.3
EXER: R236 NATL % 60.7 Use a graph and tabular data to determine the food needs of a dog.																					
UNADJ EFFECT	6.7	-14.4	8.5	-3.1	1.5	-1.4	-13.1	-25.0	13.2	-1.6	8.7	5.2	-0.6	6.6	-30.0	-12.6	-12.2	-13.2	-3.6	9.5	-7.1
STD ERROR	2.3	3.7	2.3	2.5	1.3	1.2	5.7	4.8	2.7	4.5	2.2	2.3	3.0	1.3	3.2	4.9	5.6	4.0	1.8	1.8	5.9
BAL EFFECT	3.7	-6.3	6.7	-5.3	0.7	-0.6	-9.0	-9.5	7.9	-0.9	5.2	1.5	-0.3	4.3	-21.0	-4.7	-4.2	-8.3	-3.5	7.2	-6.6
STD ERROR	1.7	2.6	2.1	2.4	1.1	1.1	4.7	4.8	3.3	4.2	1.9	2.0	2.3	1.1	3.0	4.7	4.7	3.5	1.8	1.6	4.8
EXER: R237 NATL % 35.5 Time 10 swings of a pendulum.																					
UNADJ EFFECT	0.4	1.5	-1.4	-0.1	3.9	-4.0	-1.9	-4.0	-2.0	-3.7	-5.1	6.6	2.5	1.1	-2.8	-14.8	-14.4	-4.8	1.7	1.6	-3.8
STD ERROR	4.1	4.1	3.9	4.1	2.1	2.3	7.7	5.8	5.6	6.2	4.6	4.6	4.7	0.9	5.2	6.2	6.8	5.6	2.6	2.3	7.0
BAL EFFECT	0.2	1.1	-1.9	1.1	3.7	-4.1	-0.9	1.1	-3.8	-3.2	-6.3	5.9	3.2	0.9	-1.6	-14.4	-15.1	-6.3	1.3	2.3	-3.4
STD ERROR	4.3	4.6	3.9	4.1	1.9	2.2	7.6	7.2	6.2	6.2	4.9	4.5	4.8	1.1	6.4	7.0	5.8	5.8	2.8	2.3	6.8
EXER: R238 NATL % 35.6 Select the correct apparatus necessary to determine the boiling point of water.																					
UNADJ EFFECT	5.5	-6.4	3.8	-4.9	4.7	-4.0	-17.9	-21.1	8.8	-7.4	7.7	5.3	-1.5	3.3	-14.1	-14.1	-16.5	-7.5	-3.2	6.6	-8.7
STD ERROR	2.7	2.8	2.3	2.3	1.3	1.2	3.8	3.2	5.6	3.8	2.6	3.0	2.4	0.7	3.6	3.7	4.4	4.0	1.6	1.3	3.1
BAL EFFECT	3.7	-1.3	2.7	-6.3	4.6	-4.0	-14.4	-16.6	6.7	-5.4	6.6	3.4	-0.7	1.0	-4.6	-2.8	-12.7	-4.2	-3.3	4.8	-4.0
STD ERROR	2.5	2.8	2.2	2.4	1.3	1.2	3.8	4.4	5.2	3.8	2.7	2.8	2.4	0.8	3.9	3.9	4.5	3.7	1.5	1.1	3.1
EXER: R239 NATL % 26.6 Select the best line graph showing average normal height increases in children as a function of their age.																					
UNADJ EFFECT	3.7	-7.6	2.0	0.1	2.3	-2.1	-7.2	-13.0	7.1	-9.4	4.5	3.7	-2.8	2.9	-14.6	-8.8	-15.6	0.1	-4.2	5.7	-12.9
STD ERROR	2.8	2.1	2.2	2.1	1.3	1.2	7.4	3.0	2.9	2.1	3.5	2.1	2.2	0.6	2.3	4.0	3.9	4.1	1.8	1.3	4.3
BAL EFFECT	2.3	-5.1	2.5	-1.1	2.2	-2.1	-5.5	-5.3	4.7	-6.4	2.7	2.2	-2.0	1.8	-8.8	-5.2	-11.8	2.7	-3.6	4.2	-10.5
STD ERROR	2.3	1.6	1.7	1.9	1.3	1.2	6.8	3.5	2.9	2.1	3.2	2.0	2.0	0.5	1.9	4.0	3.6	4.1	1.8	1.4	4.8
EXER: R240 NATL % 4.2 Determine the density of a wood block using a beam balance.																					
UNADJ EFFECT	1.9	-1.9	0.4	-0.9	1.1	-0.9	-2.6	-4.2	4.5	5.6	-2.9	2.2	-2.2	0.9	-4.2	-4.2	7.8	-2.7	-1.4	1.7	-4.2
STD ERROR	1.8	1.7	1.4	1.6	1.0	0.9	1.4	0.9	2.8	5.1	1.2	2.1	1.7	0.2	0.9	0.9	10.9	1.6	1.2	1.0	0.9
BAL EFFECT	1.3	-1.0	0.3	-0.9	0.9	-0.8	-2.6	-0.4	4.3	6.6	-3.7	1.7	-2.4	0.9	-1.7	-3.2	10.4	-2.1	-0.9	0.9	-4.0
STD ERROR	1.7	1.3	1.4	1.8	0.9	0.8	1.6	1.0	2.8	5.5	1.4	2.0	1.1	0.1	1.1	2.3	11.2	1.8	1.3	0.9	1.6
OBJECTIVE: Understand the investigative nature of science.																					
EXER: R241 NATL % 79.0 Select the skill which is most useful to scientific research.																					
UNADJ EFFECT	5.9	-10.8	2.0	-0.2	-0.5	0.4	-2.6	-15.1	9.4	-7.7	3.1	2.7	-1.7	4.6	-22.9	-14.0	-16.6	-9.9	0.0	5.9	-10.4
STD ERROR	1.6	3.0	2.3	2.4	1.0	0.9	4.5	3.8	2.3	6.4	2.6	2.3	2.1	0.9	2.4	8.5	6.6	3.0	1.4	0.9	3.7
BAL EFFECT	4.1	-6.2	-0.7	1.3	0.2	-0.2	-0.4	-0.1	4.7	-4.4	-0.9	1.0	-0.9	3.9	-19.2	-12.4	-10.9	-7.4	0.1	3.8	-6.3
STD ERROR	1.6	2.1	2.1	1.4	0.9	0.9	3.9	3.6	2.5	4.7	2.6	2.1	2.0	0.8	2.9	7.2	5.1	2.7	1.3	0.9	3.6

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EXER: R242  NATL % 72.5    Recognize that the statement "My dog is better than your dog" is not a scientifically testable statement:

UNADJ EFFECT       3.9   -8.5    0.2    2.6    0.8   -0.6   -7.8  -24.3    8.0   -4.9    7.9    0.4   -0.7    4.9  -22.3  -17.6  -16.6   -3.3   -2.7    5.6  -13.2
STD ERROR          1.9    2.6    2.3    2.3    0.8    0.8    7.1    4.0    3.0    6.0    2.6    1.8    2.3    0.8    2.7    3.3    6.2    3.4    1.7    1.2    3.4
BAL   EFFECT       2.4   -6.0    0.1    2.3    0.7   -0.6   -0.7  -12.4    4.0   -0.7    5.5   -2.1   -0.6    3.7  -15.2  -16.7  -10.4   -0.4   -2.0    3.5   -9.1
STD ERROR          1.8    2.4    2.3    2.0    0.9    0.8    5.8    4.4    2.9    5.4    2.6    1.6    2.4    0.7    3.0    3.7    5.8    3.1    1.8    1.3    4.0

EXER: R243  NATL % 68.8    Recognize that repeated measures of the same object will usually yield similar results but not exactly the same.

UNADJ EFFECT      -3.8    0.5    4.8   -1.6   -1.4    1.9    0.7  -14.0    2.0    2.2   -1.4    1.3    2.2    1.1   -4.8   -4.4   -1.9    1.4   -1.4    2.5   -8.1
STD ERROR          2.3    2.1    1.8    2.3    1.0    1.2    3.8    5.5    3.1    3.8    2.6    2.6    2.2    0.5    2.4    5.0    5.6    3.4    1.9    1.1    3.2
BAL   EFFECT      -3.1    0.5    4.9   -2.6   -1.5    1.7    0.8  -12.2    3.0    3.3   -1.4    0.6    1.3    0.3   -1.7    0.2   -1.6    1.9   -1.3    1.9   -6.3
STD ERROR          2.1    2.1    1.8    2.5    1.0    1.2    3.6    5.9    2.9    3.6    2.4    2.6    2.3    0.6    3.0    4.9    5.6    3.4    1.8    1.1    3.3

EXER: R244  NATL % 56.4    Recognize a simple definition of a scientific theory.

UNADJ EFFECT       6.3   -9.3    3.8   -2.3    2.1   -1.8   -8.0  -21.3   11.0   -1.6    4.6    8.0   -4.1    5.2  -23.8   -9.0  -12.5   -6.9   -4.8   10.3  -13.4
STD ERROR          2.6    4.1    2.8    2.3    1.2    0.9    4.4    3.6    4.1    6.0    2.7    2.4    3.7    1.3    3.5    4.4    5.7    4.0    1.6    1.7    5.2
BAL   EFFECT       4.3   -2.7    2.4   -4.6    1.4   -1.3   -4.2   -8.5    6.1   -0.1    2.1    4.8   -4.1    3.3  -16.6   -1.8   -7.3   -3.4   -4.7    8.6  -12.8
STD ERROR          2.0    2.7    2.5    2.3    1.0    0.9    4.0    4.4    3.1    5.6    2.4    2.0    3.2    1.2    4.0    3.9    6.1    3.3    1.5    1.5    4.7

OBJECTIVE:    Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.

EXER: R245  NATL % 93.4    Believe that women can be successful scientists.

UNADJ EFFECT      -0.8   -0.4   -1.5    2.9   -1.0    1.0   -9.0   -6.0    4.1   -2.1    0.2    2.4    0.0    1.8   -5.7  -10.8   -8.5   -1.8   -0.4    2.3   -6.3
STD ERROR          1.0    1.1    1.6    1.0    0.6    0.6    7.6    2.0    1.4    1.8    1.2    1.0    1.2    0.7    1.6    6.5    4.8    1.6    1.0    0.5    2.2
BAL   EFFECT      -1.7    0.4   -1.2    2.8   -0.9    0.8   -5.4   -1.1    2.2   -0.6   -0.1    1.6   -0.7    1.4   -4.1   -9.2   -6.2   -1.0   -0.0    1.5   -5.1
STD ERROR          0.8    0.9    1.0    1.1    0.7    0.6    5.0    2.3    1.4    1.6    1.0    0.8    1.0    0.6    1.8    5.1    4.0    1.5    0.9    0.5    2.2

EXER: R246  NATL % 90.6    Do not believe that scientists always work in laboratories.

UNADJ EFFECT       2.5   -5.8    1.7    0.1    1.2   -1.2  -10.7  -18.4    4.4   -4.5    5.3    2.0    2.3    3.9  -18.5  -13.3  -12.1   -7.0   -0.1    3.7   -4.6
STD ERROR          1.3    2.0    1.1    1.4    0.6    0.7    3.5    2.8    1.5    3.2    1.2    1.2    1.2    0.6    2.6    3.7    4.2    2.6    1.1    0.8    2.8
BAL   EFFECT       0.8   -3.0    1.1    0.1    0.8   -0.9   -5.8   -9.0    1.7   -3.1    3.2    0.8    1.7    2.8  -13.3   -8.9   -7.8   -5.2    0.3    2.0   -1.7
STD ERROR          0.9    1.4    0.9    1.4    0.6    0.7    2.6    2.6    1.8    2.6    1.0    1.1    1.2    0.5    2.6    3.2    4.0    2.4    1.1    0.6    2.2

EXER: R247  NATL %  7.6    Frequency person asks questions about why things in nature are the way they are.

UNADJ EFFECT      -0.5    3.4   -2.4    0.7    0.6   -0.5    1.1    3.9   -1.5    0.3   -2.5   -0.8    2.2   -0.6    5.0   -2.6    1.7   -0.9    0.0    0.0    0.2
STD ERROR          1.2    1.5    1.0    1.3    0.7    0.7    1.8    2.3    1.3    1.5    1.1    1.3    1.5    0.3    2.0    1.4    2.1    1.4    0.8    0.6    2.0
BAL   EFFECT       0.2    2.0   -2.7    1.4    0.4   -0.4    2.0    2.4   -1.1    0.4   -2.5   -0.6    1.8   -0.3    3.5   -4.1    1.1   -1.7   -0.3    0.6   -0.9
STD ERROR          1.3    1.4    0.9    1.3    0.7    0.7    1.9    3.1    1.5    1.6    1.3    1.2    1.6    0.4    2.5    1.8    2.0    1.5    0.8    0.6    1.7

OBJECTIVE:    Know the fundamental facts and principles of science.

EXER: U701  NATL % 94.9    (Text for this exercise was not released)

UNADJ EFFECT      -0.6   -0.5    1.4   -0.5   -0.5    0.4   -2.5   -1.5    1.9   -5.4    1.4    3.5   -1.8    1.1   -4.6   -2.7    0.3   -6.0    0.4    2.2   -3.7
STD ERROR          1.9    1.2    1.2    1.3    0.8    0.7    1.5    2.0    1.3    6.0    1.4    0.9    1.5    0.4    1.6    2.3    1.7    3.2    0.7    0.8    2.3
BAL   EFFECT      -1.5    1.4    1.2   -0.9   -0.4    0.3   -2.3    2.3    1.1   -4.4    1.3    2.7   -2.4    0.9   -4.4   -1.4    1.1   -5.4    0.4    1.8   -3.1
STD ERROR          1.7    1.0    1.1    1.2    0.8    0.7    1.5    2.4    1.3    5.7    1.4    0.9    1.5    0.4    1.6    2.6    1.8    3.1    0.8    0.6    2.7
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0702 NATL % 94.7 (Text for this exercise was not released)																					
UNADJ EFFECT	0.8	-2.5	-0.4	2.0	1.1	-1.0	-4.1	-7.6	2.7	-2.3	-0.8	2.1	1.2	1.7	-9.2	-4.3	-4.3	-3.9	0.1	1.2	-0.9
STD ERROR	0.9	1.2	1.0	0.8	0.6	0.5	2.2	2.8	1.1	2.1	1.2	0.9	1.3	0.4	1.6	2.8	2.3	2.6	0.8	0.6	1.4
BAL EFFECT	0.3	-0.9	-1.2	2.0	1.2	-1.1	-1.2	-2.9	1.2	-1.8	-1.4	1.4	1.0	1.5	-7.7	-4.7	-2.1	-3.2	-0.1	0.8	0.5
STD ERROR	0.9	1.0	0.8	0.8	0.6	0.5	1.8	2.8	1.1	1.7	1.1	0.8	1.0	0.4	1.7	2.8	2.3	2.7	0.8	0.6	1.4
EXER: 0703 NATL % 93.7 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.6	-2.8	2.8	0.2	0.7	-0.5	-2.1	-7.4	0.7	-5.4	1.3	0.7	3.9	2.3	-10.0	-9.8	-9.0	-4.1	0.9	2.4	-7.1
STD ERROR	0.8	1.3	0.8	0.9	0.5	0.6	3.2	3.8	1.4	3.6	1.2	1.0	0.7	0.4	1.9	4.4	4.0	2.0	0.7	0.5	2.6
BAL EFFECT	-0.7	-2.3	1.8	0.8	0.5	-0.5	-1.6	-2.4	-0.7	-4.3	0.1	0.0	3.9	1.7	-7.6	-6.9	-6.9	-2.9	0.4	1.8	-4.4
STD ERROR	0.8	1.3	0.8	1.1	0.5	0.5	2.9	2.8	1.2	2.5	1.2	1.0	0.7	0.4	1.9	4.3	4.0	2.1	0.6	0.5	2.1
EXER: 0704 NATL % 93.6 (Text for this exercise was not released)																					
UNADJ EFFECT	1.7	-4.5	0.6	1.5	0.5	-0.5	-6.6	-11.5	4.3	-1.1	1.1	0.1	2.0	2.2	-11.5	-7.1	-8.8	-3.8	1.0	1.9	-4.8
STD ERROR	1.0	1.6	1.0	1.1	0.6	0.5	4.4	4.6	1.0	2.1	1.2	1.3	1.0	0.5	2.3	2.3	3.4	1.9	0.9	0.6	2.3
BAL EFFECT	1.1	-2.2	-0.7	1.7	0.6	-0.6	-2.2	-5.5	2.8	-0.0	0.2	-0.9	1.6	1.8	-8.5	-6.7	-5.5	-2.6	0.7	1.3	-3.5
STD ERROR	1.0	1.1	0.9	1.0	0.6	0.5	3.7	4.3	1.2	1.6	1.2	1.2	1.0	0.4	2.1	2.5	3.2	1.8	0.9	0.6	2.0
EXER: 0705 NATL % 93.2 (Text for this exercise was not released)																					
UNADJ EFFECT	1.1	-4.3	1.0	1.5	-1.3	1.2	-4.4	-5.0	2.7	0.4	-2.0	1.5	2.2	1.9	-10.4	-2.5	-0.8	-2.4	0.5	1.0	-3.9
STD ERROR	1.1	2.6	1.2	1.2	0.5	0.5	2.9	2.3	1.4	1.7	2.3	1.1	1.4	0.8	4.3	2.3	2.4	2.5	0.9	0.6	2.3
BAL EFFECT	0.9	-2.9	0.4	1.2	-1.4	1.3	-0.6	1.9	0.4	0.9	-3.2	0.0	2.2	1.8	-9.6	-3.4	0.2	-1.1	0.7	0.3	-2.7
STD ERROR	1.1	2.3	1.0	1.1	0.5	0.5	3.4	2.3	0.9	1.8	2.5	0.9	1.4	0.8	4.0	2.5	2.6	1.9	0.9	0.7	2.6
EXER: 0706 NATL % 85.7 (Text for this exercise was not released)																					
UNADJ EFFECT	1.4	-2.9	2.8	-1.7	2.4	-2.1	-0.1	-3.3	2.0	-4.5	-1.3	1.4	1.8	2.6	-9.4	-14.6	-8.8	-2.9	2.5	2.3	-13.0
STD ERROR	1.5	2.1	1.5	1.5	0.6	0.6	4.3	3.9	2.6	3.3	2.4	1.5	1.6	0.5	2.2	3.1	4.1	2.1	1.1	0.7	3.1
BAL EFFECT	1.6	-2.2	0.9	-0.6	2.3	-2.2	-0.1	4.1	0.6	-2.0	-3.4	0.4	1.6	2.3	-9.0	-12.0	-4.9	-1.2	1.8	1.6	-10.6
STD ERROR	1.5	2.1	1.4	1.6	0.6	0.6	4.3	2.9	2.0	2.5	2.4	1.3	1.6	0.5	2.5	3.0	3.9	2.1	1.1	0.8	3.1
EXER: 0707 NATL % 80.6 (Text for this exercise was not released)																					
UNADJ EFFECT	4.1	-4.7	-0.2	-0.4	-1.1	1.1	-2.9	-22.9	8.5	-10.3	6.0	0.7	1.0	5.1	-25.4	-15.4	-20.0	-6.5	-0.4	5.4	-9.4
STD ERROR	2.1	2.5	2.8	2.3	0.8	0.9	4.0	3.9	1.8	5.4	2.1	3.1	2.5	0.8	3.3	4.1	4.0	2.6	1.5	0.9	4.4
BAL EFFECT	2.7	-0.8	-0.7	-1.4	-1.5	1.7	4.5	-8.4	4.8	-7.2	3.5	-1.6	-0.5	4.0	-21.5	-9.5	-15.9	-4.5	0.3	3.4	-6.2
STD ERROR	1.8	2.3	2.4	2.6	0.8	0.9	3.7	4.7	2.2	4.7	2.1	2.8	2.6	0.9	3.7	4.6	3.9	2.5	1.4	0.8	3.8
EXER: 0708 NATL % 82.5 (Text for this exercise was not released)																					
UNADJ EFFECT	4.5	-6.5	2.5	-2.8	2.8	-2.6	-7.5	-14.7	8.0	-11.6	5.3	2.8	0.7	3.3	-17.1	-8.1	-12.3	-5.2	-1.0	4.6	-7.8
STD ERROR	1.5	2.7	1.9	1.8	0.9	0.8	4.5	3.3	1.9	4.4	1.9	2.0	2.1	0.6	2.8	5.1	4.4	2.6	1.6	1.2	3.1
BAL EFFECT	2.1	-2.5	1.8	-2.5	3.2	-2.9	-7.2	-5.0	5.1	-8.6	3.2	1.7	0.8	2.4	-13.5	-3.5	-8.8	-3.0	-0.6	2.6	-3.5
STD ERROR	1.5	2.7	2.0	1.4	0.9	0.8	3.5	4.0	1.7	3.8	2.1	1.8	2.5	0.6	2.9	4.4	4.7	2.5	1.5	1.1	3.2

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EXER: U709  NATL % 80.9   (Text for this exercise was not released)

UNADJ EFFECT      3.5  -14.3   4.3   3.0    5.5   -4.7  -21.1  -19.2    8.8   -0.0    7.0    1.1    2.5     5.3  -26.7   -7.2  -23.5  -13.4    -0.8     7.2   -4.5
STD ERROR         1.9    3.2   1.8   2.1    1.0    0.9    4.6    3.5    2.8    4.1    1.9    2.0    2.8     1.0    3.3    4.5    5.7    3.0     1.6     1.2    3.1
BAL   EFFECT      1.1   -6.7   2.2   1.7    4.9   -4.5  -13.7   -9.6    3.2    1.0    3.3    0.4    2.8     3.7  -19.2   -3.5  -15.2   -8.4    -2.0     5.1   -0.5
STD ERROR         1.5    2.3   1.4   1.9    0.9    0.8    2.5    3.0    2.2    3.2    1.6    1.7    1.8     0.8    3.1    4.2    4.6    3.0     1.5     0.9    2.3

EXER: U710  NATL % 79.2   (Text for this exercise was not released)

UNADJ EFFECT      0.3   -5.6   1.6   2.6    3.3   -3.1  -10.0   -5.2   10.1   -9.3    3.9   -0.3    0.2     2.6  -11.0   -8.8  -13.5   -4.3    -0.6     5.0   -9.0
STD ERROR         1.8    2.3   2.2   1.9    1.1    1.1    4.8    3.2    2.9    5.6    2.2    2.3    2.3     0.6    2.0    3.6    4.3    2.9     1.4     1.3    4.4
BAL   EFFECT     -1.3   -2.0   0.4   2.6    3.3   -3.1   -7.4    0.8    6.9   -7.6    2.4   -0.9    0.0     1.9   -7.6   -6.9   -9.7   -1.7    -0.9     3.7   -7.0
STD ERROR         1.7    2.5   2.1   2.0    1.1    1.0    6.0    3.4    2.8    5.4    2.3    2.1    2.3     0.6    2.4    3.7    4.5    2.9     1.5     1.3    4.0

EXER: U711  NATL % 76.9   (Text for this exercise was not released)

UNADJ EFFECT      5.7    0.4   1.2  -8.4    1.7   -1.7   -4.6  -15.9    5.3   -2.9    0.7    3.5   -0.5     2.6  -11.4  -12.7  -17.6    3.6    -4.0     5.5   -9.2
STD ERROR         1.6    2.1   1.8   2.3    1.2    1.1    4.0    5.9    2.5    3.6    2.1    2.4    2.3     0.5    3.3    4.0    6.9    3.4     1.4     1.0    3.3
BAL   EFFECT      4.7    3.3   0.4  -9.0    1.8   -1.6   -0.9   -9.4    6.4   -1.1   -0.8    1.8   -1.2     1.8   -9.2   -6.1  -14.2    4.8    -4.6     5.0   -7.3
STD ERROR         1.6    2.0   1.7   2.2    1.2    1.1    3.5    5.8    2.8    3.4    2.0    2.2    2.2     0.6    3.3    4.0    7.7    3.3     1.4     1.0    3.2

EXER: U712  NATL % 76.0   (Text for this exercise was not released)

UNADJ EFFECT     -0.4   -6.9   5.4   1.0    5.2   -4.7   -2.7  -19.9    6.4  -10.3    3.2    2.3    4.5     4.2  -22.9  -11.7  -22.4  -10.8    -2.0     6.5   -4.5
STD ERROR         2.3    3.0   1.7   1.9    1.0    0.9    5.2    6.1    3.6    5.2    2.9    1.9    2.1     0.9    3.3    6.9    4.8    3.0     1.6     1.0    4.2
BAL   EFFECT     -0.8   -5.0   5.0   0.1    4.5   -4.3   -0.8  -11.8    3.4   -9.5    0.5    1.3    5.7     2.7  -15.8   -5.1  -19.4   -7.8    -2.7     5.0    1.0
STD ERROR         2.1    2.8   1.5   2.0    0.9    0.9    4.3    4.1    3.3    4.1    2.3    1.7    2.0     0.7    3.1    6.4    4.9    2.8     1.5     1.0    3.5

EXER: U713  NATL % 74.4   (Text for this exercise was not released)

UNADJ EFFECT      4.7   -8.9   2.9  -0.5    1.6   -1.4  -15.8  -21.9   14.7   -5.0   -0.0    6.8    0.1     4.7  -26.0   -6.2  -17.7  -11.0    -5.0     8.7   -9.6
STD ERROR         1.9    2.7   2.2   2.3    1.3    1.1    4.7    4.6    2.2    4.3    2.5    1.9    2.5     0.8    2.8    3.5    5.8    3.3     1.6     1.3    3.6
BAL   EFFECT      3.1   -2.3   1.4  -3.2    1.6   -1.4   -8.1   -9.4    9.3   -3.0   -1.9    3.3    0.8     2.9  -18.4    1.8  -15.4   -7.4    -4.5     6.6   -5.2
STD ERROR         1.6    1.9   1.9   1.9    1.3    1.1    4.2    3.9    2.4    3.8    2.4    1.6    2.2     0.8    3.1    3.7    5.7    3.4     1.5     1.3    3.3

EXER: U714  NATL % 71.5   (Text for this exercise was not released)

UNADJ EFFECT      2.2   -2.7   1.8  -1.8    4.0   -4.0  -11.2  -11.2   -1.6    8.0    2.7    5.4   -0.7     3.1  -14.1   -6.2  -17.8   -2.1    -1.3     3.8   -1.9
STD ERROR         2.0    3.3   2.2   2.1    1.5    1.5    3.1    3.2    3.7    3.9    2.3    2.0    2.8     0.9    3.4    3.9    6.1    3.0     1.3     1.5    4.5
BAL   EFFECT     -0.6    2.4   0.7  -2.2    3.8   -3.6   -9.6   -2.1   -4.0    8.3    1.9    3.7   -1.8     2.4  -11.7   -2.9  -14.3   -0.3    -1.4     3.2   -2.6
STD ERROR         1.8    2.2   2.0   1.6    1.4    1.4    2.9    4.3    3.7    3.4    2.2    1.8    2.5     0.9    3.4    4.1    6.0    2.6     1.2     1.3    4.2

EXER: U715  NATL % 69.7   (Text for this exercise was not released)

UNADJ EFFECT      8.1   -4.6   1.1  -6.9   -1.1    0.7  -12.3   -4.3    7.4   -5.1    4.6    0.5    0.2     3.0  -10.0  -19.2  -13.3   -5.4    -0.1     5.0  -11.9
STD ERROR         2.1    2.8   2.6   3.3    1.3    1.2    3.7    4.4    3.1    8.4    2.5    2.9    3.2     0.8    3.3    6.5    8.8    3.7     1.5     1.2    3.5
BAL   EFFECT      5.9   -1.8   0.4  -5.8   -0.3    0.3  -12.3    5.5    5.3    1.3    1.3   -1.2    0.4     2.5   -9.1  -15.2   -7.1   -2.9     0.3     3.3  -10.8
STD ERROR         1.8    2.6   2.2   2.7    1.3    1.1    3.5    4.1    3.3    6.6    2.4    2.6    3.1     0.8    3.4    5.3    6.6    3.6     1.3     1.1    3.9
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                          REGION                    SEX                      SIZE AND TYPE OF COMMUNITY                           COLOR                   HIGH SCHOOL EDUCATION

                                                               EXTREME  INNER EXTREME INNER  URBAN  MEDIUM SMALL   NON
                  N.EAST S.EAST  CENTRAL  WEST    MALE  FEMALE  RURAL   CITY  APP.SUB FRINGE FRINGE  CITY  CITY   BLACK  BLACK  OTHER    NONE  SOME  GRADUATED  POST UNKNOWN

EXER: 0716  NATL % 68.0   (Text for this exercise was not released)

UNADJ EFFECT         3.3   -0.4     0.5   -4.0     0.9   -0.4    -6.6   -5.8    3.9    1.8   -1.4    7.3   -4.3     2.1   -8.3  -11.5    -1.3  -4.4       0.9      2.1   -8.1
STD ERROR            1.9    2.0     1.8    2.0     1.2    1.0     3.3    2.9    3.3    4.1    2.2    1.8    2.1     0.5    2.4    3.1     4.4   3.0       1.4      1.0    3.1
BAL   EFFECT         1.8    2.3    -0.2   -3.9     0.9   -0.9    -7.5    2.1    2.8    5.5   -2.7    6.4   -5.4     2.1   -8.4  -10.7     1.6  -4.1       1.3      1.3   -6.9
STD ERROR            1.8    2.2     1.9    2.0     1.1    1.0     3.4    3.8    3.4    3.8    2.3    1.8    2.1     0.6    2.9    4.0     4.8   2.9       1.5      1.1    3.4

EXER: 0717  NATL % 63.1   (Text for this exercise was not released)

UNADJ EFFECT         7.4  -11.6     1.4    1.0     8.3   -7.9    -8.7  -18.4   12.0    3.7    1.9    6.4   -2.4     6.3  -27.8  -14.1   -21.6 -13.8      -5.1     11.7   -7.1
STD ERROR            2.7    4.0     3.0    3.1     1.5    1.3     5.1    4.4    4.3    5.2    3.3    3.1    3.8     1.2    3.7    5.5     5.3   3.9       1.8      1.5    5.4
BAL   EFFECT         5.0   -3.1    -2.0   -0.4     7.6   -7.3    -2.9    0.2    3.6    3.9   -2.0    2.4   -2.3     5.1  -22.5  -11.3   -14.9  -9.6      -4.4      9.5   -7.5
STD ERROR            2.3    2.9     2.5    2.6     1.4    1.2     4.0    4.9    5.2    4.8    2.7    2.8    3.1     1.0    3.1    5.2     5.4   1.1       1.8      1.4    4.5

EXER: 0718  NATL % 61.7   (Text for this exercise was not released)

UNADJ EFFECT        -3.2    2.4     7.1   -6.6     0.8   -0.7    -8.3  -22.8    2.1   -8.1    5.9   -0.1    8.9     5.3  -20.3  -18.5   -21.5  -5.2       0.1      8.6  -21.2
STD ERROR            3.7    4.2     3.0    3.5     1.1    1.2     7.1    3.7    4.3    5.1    3.3    3.6    4.4     1.1    3.1    6.0     5.6   4.3       2.0      1.6    3.8
BAL   EFFECT        -2.5    6.1     4.5   -7.2     0.4   -0.4    -7.8   -4.3   -0.3   -4.2    3.1   -2.4    6.4     3.6  -15.0   -8.3   -19.5  -5.3      -1.2      7.4  -13.4
STD ERROR            3.5    3.1     2.8    3.6     1.1    1.1     5.4    5.6    4.2    4.3    3.2    3.1    4.5     1.1    3.3    6.7     5.4   3.8       1.9      1.5    3.7

EXER: 0719  NATL % 61.8   (Text for this exercise was not released)

UNADJ EFFECT         6.1   -8.1     0.8   -0.5     0.5   -0.5   -18.7  -20.2   13.4   -2.2    5.6   -0.8    0.5     3.2  -19.1   -3.4   -11.1 -11.9      -0.2      3.3    0.4
STD ERROR            2.3    2.3     2.5    2.4     1.3    1.2     4.8    4.2    2.6    4.0    2.9    2.5    2.5     0.7    4.1    4.4     7.0   3.4       1.5      1.2    3.9
BAL   EFFECT         4.5   -2.2    -0.6   -2.3     0.8   -0.7   -12.5  -12.9   11.2   -1.3    3.5   -2.1    0.9     2.1  -13.5   -0.1    -3.7  -8.9      -0.6      2.1    1.8
STD ERROR            2.2    2.2     2.3    2.1     1.3    1.2     4.5    4.3    2.7    3.8    3.1    2.1    2.7     0.7    4.0    3.8     6.6   3.4       1.4      1.1    3.4

EXER: 0720  NATL % 61.6   (Text for this exercise was not released)

UNADJ EFFECT         2.5   -7.0     1.6    2.0     1.2   -0.8    -8.0  -21.1   11.5   -5.9    4.6    7.5   -1.4     5.7  -22.8  -18:9   -15.6  -6.2      -1.9      8.3  -14.7
STD ERROR            2.5    3.9     2.7    2.1     1.3    1.2     5.2    4.7    3.9    2.3    2.4    2.9    3.5     1.1    3.2    5.1     6.1   4.2       1.4      1.3    4.3
BAL   EFFECT        -0.1   -1.1    -0.7    1.8     0.6   -0.5    -5.0   -4.7    6.2   -3.2    2.4    3.7   -2.8     4.6  -18.0  -16.3    -9.2  -2.5      -1.5      5.8  -12.9
STD ERROR            2.2    2.8     2.6    2.0     1.2    1.1     4.1    5.3    3.7    2.3    2.4    2.7    3.3     1.1    3.5    5.2     6.0   3.5       1.5      1.1    3.5

EXER: 0721  NATL % 60.4   (Text for this exercise was not released)

UNADJ EFFECT         2.1   -3.5    -2.3    3.9     2.7   -2.5    -2.1  -15.4   10.1    0.5    2.1    4.2   -7.5     3.1  -15.0  -11.3   -11.9 -16,6      -5.2      8.2   -1.7
STD ERROR            3.2    3.4     4.5    2.8     1.4    1.2     5.8    5.0    2.9    3.9    3.7    3.3    6.0     0.7    3.4    4.3     6.3   4.0       1.8      1.2    4.5
BAL   EFFECT        -0.3    0.6    -2.6    3.3     3.1   -2.8     4.0   -5.7    6.5    1.6    0.6    2.4   -7.0     2.9  -13.8  -11.2    -7.4 -14.0      -5.1      7.2   -1.2
STD ERROR            2.9    3.5     3.6    2.4     1.3    1.2     4.7    5.7    3.0    4.0    3.7    3.2    5.1     0.7    4.0    3.8     6.1   3.9       1.8      1.1    4.5

EXER: 0722  NATL % 58.2   (Text for this exercise was not released)

UNADJ EFFECT         0.6   -3.0     1.9   -0.5    -1.5    1.4    -7.1  -15.7    8.0   -5.7   -0.8    4.7    2.4     2.3  -10.8   -5.4   -17.7  -7.5      -2.5      5.7   -0.8
STD ERROR            2.3    2.8     2.1    2.7     1.3    1.2     4.4    5.1    3.9    4.3    2.2    2.2    3.3     0.8    3.6    5.1     5.6   3.5       1.9      1.4    3.6
BAL   EFFECT        -0.1   -0.4     1.3   -1.4    -1.5    1.4    -3.7  -12.4    5.3   -5.3   -1.9    4.2    2.7     1.1   -6.2   -0.2   -15.0  -6.5      -3.0      4.7    2.9
STD ERROR            2.0    2.5     1.8    2.6     1.3    1.2     4.8    6.6    3.8    4.1    2.1    2.1    3.1     0.9    4.2    4.9     5.3   3.4       1.9      1.4    3.4
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EXER: 0723  NATL % 58.5   (Text for this exercise was not released)

UNADJ EFFECT       -2.1   -6.2    6.7   -0.4    3.1   -3.4  -18.1  -27.4    6.2    3.9    4.4    2.7    2.7    4.4  -23.3  -10.3   -5.2  -15.4   -1.5    8.7  -18.7
STD ERROR           3.0    3.5    2.8    2.4    1.4    1.5    4.1    3.6    3.4    4.5    3.7    3.5    2.6    0.7    2.4    5.7    5.7    3.6    1.8    1.4    4.3
BAL   EFFECT       -4.3   -1.2    6.2   -1.4    3.1   -3.4  -10.3  -15.0    4.7    6.4    2.4    0.9    0.8    2.6  -15.7   -2.0   -0.9  -13.3   -0.7    6.8  -16.1
STD ERROR           2.7    2.9    2.3    2.0    1.2    1.4    3.5    3.7    3.0    3.7    3.2    3.2    2.5    0.6    2.9    4.2    5.4    3.8    1.8    1.5    3.9

EXER: 0724  NATL % 58.6   (Text for this exercise was not released)

UNADJ EFFECT        4.4  -12.4    1.9    4.0    0.2   -0.2  -16.4  -23.2   17.5   -9.1    5.9    3.5   -2.7    5.1  -24.3  -19.7  -24.3  -17.4   -2.5    9.1   -9.5
STD ERROR           2.9    2.8    2.9    2.9    1.3    1.2    3.8    7.2    5.2    5.4    3.3    2.7    2.9    0.8    3.2    5.0    7.7    5.6    2.4    1.3    3.7
BAL   EFFECT        1.1   -6.3    0.5    4.0    0.4   -0.4   -4.5   -9.7   11.7   -7.3    3.3    1.4   -2.9    3.9  -17.4  -18.4  -15.0  -13.1   -3.1    7.0   -5.2
STD ERROR           2.7    2.4    2.6    2.8    1.2    1.1    4.3    6.9    5.3    4.2    3.1    2.4    3.0    0.7    3.4    4.7    7.3    6.0    2.4    1.3    3.6

EXER: 0725  NATL % 58.2   (Text for this exercise was not released)

UNADJ EFFECT        0.1   -5.2    1.0    3.0    3.9   -4.4  -15.3  -20.4   14.7   -7.3    9.1    0.6   -2.9    3.3  -16.5   -9.8  -23.4  -14.2   -6.0   10.6   -6.7
STD ERROR           2.8    2.7    2.7    2.8    1.3    1.3    4.3    3.5    2.9    4.7    3.4    3.1    3.2    0.7    2.8    5.3    4.6    3.6    1.9    1.6    4.0
BAL   EFFECT       -2.4    0.4    1.4    0.5    3.9   -4.4  -11.8  -12.5   11.3   -6.2    7.8   -0.3   -2.9    1.2   -7.9    0.0  -19.4  -12.2   -4.3    8.6   -6.2
STD ERROR           2.4    2.6    2.4    2.8    1.1    1.3    4.1    4.1    3.4    4.4    3.1    2.8    3.1    0.7    3.6    5.3    4.8    3.5    2.0    1.7    3.9

EXER: 0726  NATL % 56.5   (Text for this exercise was not released)

UNADJ EFFECT        2.1  -10.9    7.0   -1.3    5.1   -5.8  -11.6  -20.2    3.0   -0.9    8.0    2.4    0.4    3.9  -17.4  -14.8   -8.1   -9.0   -6.4    8.3   -5.8
STD ERROR           2.8    2.5    3.1    2.5    1.2    1.3    3.8    3.2    3.3    4.8    4.0    3.1    3.1    0.8    2.8    4.3    5.7    4.3    2.0    1.3    3.8
BAL   EFFECT        0.4   -8.1    6.8   -1.6    4.9   -5.5   -5.9  -11.6    0.2    0.1    4.4    1.2    1.3    2.2   -9.3   -9.7   -2.5   -6.8   -6.6    6.6   -2.1
STD ERROR           2.7    2.4    2.9    2.4    1.2    1.3    3.6    3.7    3.0    4.2    3.8    3.0    2.8    0.8    3.7    4.4    5.7    4.3    2.0    1.3    3.6

EXER: 0727  NATL % 53.2   (Text for this exercise was not released)

UNADJ EFFECT        2.3   -3.5   -1.0    1.6    0.0    0.2   -9.5  -14.0    7.4   -6.4    1.6    4.5   -1.5    4.7  -26.6   -9.1   -2.9   -8.4   -0.1    2.8   -5.9
STD ERROR           3.0    4.0    2.6    2.3    1.0    1.0    4.6    5.4    4.6    3.7    4.3    2.4    2.7    0.8    3.2    4.5    5.3    3.4    2.0    1.2    3.3
BAL   EFFECT       -0.3    1.3   -1.0    0.4    0.1   -0.1   -4.3    0.7    3.2   -3.2   -0.0    2.9   -3.1    4.5  -26.1   -7.1    0.8   -6.7    1.0    1.0   -2.0
STD ERROR           2.6    3.5    2.4    2.3    1.1    1.0    4.6    5.0    4.3    3.2    3.8    2.4    2.8    0.8    3.1    4.7    5.0    3.2    1.8    1.2    3.5

EXER: 0728  NATL % 53.3   (Text for this exercise was not released)

UNADJ EFFECT        7.4   -3.9    3.1   -8.6    1.7   -1.5  -15.0  -25.2    6.4   -7.8    2.1    9.7    0.9    4.5  -15.9  -25.6  -17.8  -10.2   -4.1    8.8  -14.4
STD ERROR           3.4    4.0    3.4    3.6    1.3    1.1    7.6    4.7    5.1    7.1    4.3    3.8    3.5    0.9    3.0    4.9    5.9    3.8    2.0    1.4    3.9
BAL   EFFECT        6.4    0.1    1.5   -9.1    1.8   -1.6   -9.5  -16.1    2.9   -3.0    0.3    6.3    1.4    2.1   -7.0  -13.2  -14.1   -6.8   -4.4    7.1   -9.6
STD ERROR           3.2    3.5    3.3    3.6    1.3    1.2    7.1    5.1    5.3    6.7    4.0    3.5    3.6    0.8    3.2    5.1    5.5    3.4    1.8    1.3    4.3

EXER: 0729  NATL % 51.7   (Text for this exercise was not released)

UNADJ EFFECT        0.0    0.8   -0.6    0.2   -0.3    0.6   -6.8   -6.3   13.3  -10.1   -4.8    4.2    2.0    1.3   -3.9   -7.1   -8.6  -10.3   -0.9    4.7   -3.2
STD ERROR           2.7    3.4    3.3    2.9    1.2    1.1    4.6    3.4    4.3    4.5    3.6    2.9    4.1    0.7    3.5    4.3    6.3    3.6    1.7    1.5    3.3
BAL   EFFECT       -0.4    2.3   -1.2   -0.0   -0.6    0.6   -5.1   -4.0   11.4   -9.1   -5.1    3.7    2.1    0.6   -1.7   -3.6   -7.6   -9.7   -0.8    3.7   -0.9
STD ERROR           2.5    3.1    2.9    3.0    1.2    1.1    4.4    4.1    4.7    4.8    3.4    2.8    4.1    0.7    3.6    4.4    5.8    3.6    1.6    1.5    3.4
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: U730 NATL % 50.5 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.8	-8.3	5.2	2.1	1.1	-0.9	-8.3	-26.5	7.9	-11.8	-2.3	9.0	5.7	5.3	-26.0	-14.3	-3.1	-12.1	-4.5	7.8	-12.6
STD ERROR	2.5	2.9	3.1	2.6	1.5	1.4	3.9	4.1	3.2	3.7	2.3	3.1	3.0	0.9	2.7	4.7	5.8	3.8	1.9	1.6	3.2
BAL EFFECT	-1.7	-5.3	4.0	1.8	1.1	-1.0	-1.3	-11.6	2.1	-11.2	-4.5	6.2	6.0	3.4	-17.1	-8.2	-0.5	-9.2	-4.1	5.4	-5.3
STD ERROR	2.3	2.3	2.4	2.1	1.5	1.3	3.6	4.0	3.0	3.5	2.3	2.8	2.7	0.8	3.0	4.7	5.2	4.1	1.7	1.6	3.1
EXER: U731 NATL % 49.7 (Text for this exercise was not released)																					
UNADJ EFFECT	2.1	-4.9	3.9	-1.6	3.8	-3.5	-3.3	-19.5	7.8	-9.6	7.1	-1.9	4.6	5.0	-21.8	-22.3	-14.5	-8.4	0.8	4.7	-11.0
STD ERROR	2.5	2.6	2.2	2.2	1.2	1.1	5.5	4.8	3.6	3.7	3.5	2.3	2.2	0.7	3.2	3.6	5.7	3.2	1.5	1.4	4.7
BAL EFFECT	1.1	-3.2	2.1	-0.4	3.5	-3.4	-2.3	-8.5	5.1	-6.9	3.9	-3.4	4.7	3.8	-16.3	-17.4	-8.5	-4.9	-0.2	2.9	-5.2
STD ERROR	2.1	2.1	2.2	2.0	1.2	1.1	6.1	3.5	3.1	2.7	2.9	2.3	2.1	0.7	3.1	4.1	5.6	3.2	1.5	1.4	4.1
EXER: U732 NATL % 49.5 (Text for this exercise was not released)																					
UNADJ EFFECT	2.2	-13.2	6.3	1.9	4.6	-4.0	-15.6	-21.7	13.0	-0.0	2.3	1.1	3.5	3.9	-19.1	-10.5	-19.9	-9.0	-2.9	7.4	-10.4
STD ERROR	3.3	2.6	2.9	2.9	1.5	1.3	5.8	3.7	5.4	4.6	3.6	3.6	3.6	0.8	2.8	4.9	4.8	4.0	1.7	1.4	3.8
BAL EFFECT	1.8	-8.8	4.9	-0.0	4.4	-3.9	-8.3	-12.7	8.0	0.1	-0.2	-0.9	5.1	1.8	-9.2	-3.4	-15.6	-5.1	-2.9	5.4	-6.3
STD ERROR	3.2	2.8	2.7	2.6	1.4	1.3	4.6	4.8	6.0	4.3	3.5	3.3	3.1	0.8	3.3	4.6	4.6	3.8	1.6	1.4	3.7
EXER: U733 NATL % 47.1 (Text for this exercise was not released)																					
UNADJ EFFECT	-2.4	-3.0	6.2	-3.1	8.2	-7.6	-11.4	-12.7	3.9	-7.6	3.4	0.6	5.4	3.2	-11.6	-14.1	-12.9	-1.4	-1.5	4.6	-7.7
STD ERROR	2.3	3.1	2.3	2.6	1.3	1.2	4.5	3.4	3.7	3.8	3.0	2.8	3.1	0.9	3.7	4.3	5.3	3.3	1.9	1.6	3.0
BAL EFFECT	-3.6	-0.4	5.1	-2.7	8.2	-7.6	-10.0	-6.5	1.7	-6.0	2.3	0.2	4.6	1.9	-7.1	-7.6	-9.6	0.9	-2.8	4.0	-4.3
STD ERROR	2.2	3.0	2.1	2.5	1.3	1.2	4.5	4.1	3.5	3.3	2.8	2.7	2.8	0.8	4.0	3.9	4.9	3.3	1.9	1.5	3.4
EXER: U734 NATL % 47.5 (Text for this exercise was not released)																					
UNADJ EFFECT	1.3	-6.1	1.4	1.8	11.6	-13.2	-10.0	-19.9	5.9	-1.3	4.1	1.6	1.8	4.3	-23.1	-9.1	-12.9	-3.1	-2.8	6.0	-10.7
STD ERROR	1.9	2.3	2.8	2.4	1.1	1.3	4.3	3.1	2.9	6.2	2.8	2.6	2.8	0.8	2.6	4.5	4.8	4.1	1.6	1.3	3.7
BAL EFFECT	-1.8	-1.4	1.6	1.2	11.6	-13.0	-6.6	-6.7	3.9	0.1	1.3	0.3	0.7	3.1	-17.6	-4.5	-7.2	-1.8	-1.9	4.2	-9.0
STD ERROR	1.7	2.0	2.4	2.4	1.2	1.4	3.3	3.4	2.6	5.1	2.9	2.4	2.2	0.8	3.2	4.1	4.6	4.3	1.5	1.2	3.3
EXER: U735 NATL % 45.5 (Text for this exercise was not released)																					
UNADJ EFFECT	3.4	-7.6	5.9	-4.1	3.6	-3.1	-9.4	-17.5	0.1	-3.8	-0.1	8.6	1.1	3.9	-17.3	-14.8	-11.0	-12.0	-0.2	4.9	-7.4
STD ERROR	2.8	3.3	3.0	2.5	1.3	1.1	4.4	4.5	3.2	4.5	2.6	3.7	3.4	0.8	3.0	4.6	4.8	3.6	2.2	1.6	4.5
BAL EFFECT	2.2	-4.4	4.4	-3.9	3.3	-2.9	-3.8	-7.8	-3.5	-2.6	-2.1	6.2	2.0	2.4	-11.0	-8.1	-8.3	-9.1	-0.4	3.6	-3.7
STD ERROR	2.5	3.1	2.8	2.4	1.3	1.1	4.0	5.0	3.4	4.8	2.7	3.5	3.0	0.7	3.5	4.9	5.2	3.8	2.1	1.3	4.5
EXER: U736 NATL % 44.3 (Text for this exercise was not released)																					
UNADJ EFFECT	0.3	-10.1	4.7	3.6	-0.3	0.5	-3.9	-9.2	3.1	-2.8	-3.3	6.1	3.2	2.8	-10.6	-9.9	-14.4	0.9	-1.4	4.6	-9.9
STD ERROR	2.5	3.1	3.1	2.2	1.3	1.3	6.7	4.8	5.3	4.5	2.6	3.3	4.5	0.6	3.1	3.5	7.1	3.9	1.4	1.4	3.5
BAL EFFECT	0.6	-10.0	3.8	4.2	-0.8	0.7	-2.1	-3.8	-0.9	-2.0	-5.1	4.9	3.8	1.5	-4.4	-9.1	-11.3	3.1	-1.2	3.2	-8.3
STD ERROR	2.6	3.2	3.3	2.3	1.3	1.2	6.1	5.0	4.9	4.1	2.6	3.2	4.6	0.8	3.7	4.2	8.0	3.9	1.5	1.5	3.6

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EXER: 0737  NATL % 42.5   (Text for this exercise was not released)

UNADJ EFFECT       0.7   -4.7     5.0   -1.5    7.9    -7.7     1.1   -9.7   10.6    -2.3    3.9   -5.4    0.7     2.9  -12.2  -14.1 -9.8  -5.5    -1.1      4.5   -9.0
STD ERROR          2.3    2.5     2.5    2.4    1.4     1.4     7.3    4.8    3.5     3.8    2.7    2.6    3.0     0.6    2.9    3.5  5.0   2.9     1.8      1.4    3.4
BAL   EFFECT       0.8   -3.7     3.6   -1.1    7.9    -7.7     1.2   -3.0    8.8     0.0    1.3   -6.4    1.2     2.3   -8.8  -11.6 -4.9  -1.8    -1.6      3.1   -5.9
STD ERROR          2.3    2.7     2.6    2.3    1.4     1.3     8.0    3.8    3.1     3.2    2.6    2.6    3.1     0.6    3.4    3.8  4.9   2.9     1.8      1.3    3.5

EXER: 0738  NATL % 40.5   (Text for this exercise was not released)

UNADJ EFFECT       0.2    2.0     0.1   -1.8    4.4    -5.0   -10.5  -16.4    0.8     0.8    3.5   -0.0    6.2     3.9  -20.1  -10.1 -0.6 -12.9    -3.8      6.5   -5.0
STD ERROR          2.8    3.0     2.5    2.4    1.5     1.6     5.5    3.4    3.7     3.5    4.0    3.3    2.9     0.7    2.4    4.2  5.6   3.5     1.6      1.1    4.7
BAL   EFFECT      -1.9    5.9    -0.6   -2.0    4.4    -4.9    -6.1   -3.5   -2.1     3.4    2.2   -1.8    4.4     3.3  -18.3   -6.7  2.7 -12.8    -3.5      5.5   -2.7
STD ERROR          2.6    2.8     2.3    2.2    1.4     1.6     5.0    3.6    3.8     3.0    3.9    2.9    2.9     0.7    2.8    4.6  5.5   3.6     1.6      1.2    4.6

EXER: 0739  NATL % 38.7   (Text for this exercise was not released)

UNADJ EFFECT       2.4   -1.6     3.3   -4.6    0.4    -0.5    -1.4  -15.0    6.1     0.1   -0.8    5.6   -1.5     3.4  -10.6  -19.0-17.7  -8.3    -2.2      7.2   -5.7
STD ERROR          2.6    3.5     2.5    2.2    1.6     1.5     3.8    4.5    5.1     6.5    2.6    2.5    2.9     0.7    3.6    4.6  4.9   3.6     1.8      1.4    4.4
BAL   EFFECT       1.6    1.4     1.8   -4.7    0.2    -0.2     0.8   -6.9    3.9     1.2   -2.3    3.9   -1.9     2.2   -6.8  -11.9-14.3  -6.9    -2.5      6.4   -4.4
STD ERROR          2.4    3.4     2.2    2.1    1.5     1.5     3.5    5.0    4.6     6.2    2.5    2.4    2.9     0.7    3.7    4.9  5.0   3.6     1.7      1.4    4.2

EXER: 0740  NATL % 37.0   (Text for this exercise was not released)

UNADJ EFFECT       0.4   -4.6     4.9   -2.7    4.0    -3.5   -13.1  -12.7   12.3    -4.1    0.5   -0.1    2.6     2.4  -12.9   -5.7-13.6 -13.4    -0.9      6.8  -10.9
STD ERROR          2.6    2.8     2.7    2.6    1.4     1.3     4.5    4.3    6.9     3.4    2.8    2.8    2.7     0.6    2.8    4.1  4.8   3.5     1.8      1.6    3.2
BAL   EFFECT      -0.6    0.7     3.2   -4.1    3.9    -3.6    -7.9   -6.2   11.8    -2.8   -0.5   -1.6    1.7     1.4   -8.3   -1.0 -9.3 -12.3    -1.1      6.2   -9.7
STD ERROR          2.6    2.8     2.4    2.4    1.4     1.2     4.9    4.2    6.0     2.9    2.6    2.6    2.7     0.5    2.6    3.9  5.5   4.1     1.8      1.7    3.5

EXER: 0741  NATL % 34.6   (Text for this exercise was not released)

UNADJ EFFECT       7.4   -3.2    -3.1   -1.5    3.0    -2.7     4.2    6.7   -2.2     0.5    6.6   -1.2   -7.1    -0.2    1.3   -0.1  6.7   0.1    -1.2      0.3   -0.6
STD ERROR          2.2    2.3     2.0    2.3    1.4     1.3     4.8    4.6    3.1     2.4    3.1    2.4    2.3     0.5    2.9    3.9  6.3   3.9     1.8      1.4    3.4
BAL   EFFECT       6.6   -2.7    -3.4   -0.7    2.7    -2.5     6.5    6.3   -1.7     2.1    4.6   -1.9   -5.9     0.3    0.3   -3.1  8.4   1.1    -1.1      0.3   -3.1
STD ERROR          2.0    2.4     1.9    2.4    1.4     1.3     4.5    4.8    3.1     2.9    2.6    2.4    2.4     0.6    2.9    4.9  6.6   4.0     1.8      1.6    3.8

EXER: 0742  NATL % 28.4   (Text for this exercise was not released)

UNADJ EFFECT       4.2   -5.5     3.3   -4.1    3.0    -2.8    -0.5  -13.4    2.7    -9.8    5.7    0.9    0.8     4.2  -18.1  -12.0-17.2 -15.2     0.5      5.9   -4.5
STD ERROR          3.3    3.0     3.2    2.6    1.2     1.1     6.4    3.5    5.4     3.5    4.4    3.0    4.0     0.8    2.3    3.5  2.9   2.6     1.9      1.3    5.9
BAL   EFFECT       2.6   -0.9     1.6   -4.2    2.8    -2.6     5.4   -5.4   -0.8    -7.5    3.0   -0.5    0.8     3.0  -14.4   -5.5-13.4 -13.8    -0.8      5.2   -0.3
STD ERROR          3.2    3.2     3.2    2.9    1.2     1.1     6.0    3.0    6.1     3.8    4.3    3.0    3.8     0.7    2.5    3.9  2.8   2.6     1.9      1.3    5.4

EXER: 0743  NATL % 29.0   (Text for this exercise was not released)

UNADJ EFFECT      -0.7   -5.5     1.7    3.7   -0.1     0.1    -9.3  -15.3   12.2    -7.9   -0.1    5.0    0.2     3.3  -15.0  -11.1 -7.1 -10.8    -4.4      7.4  -10.3
STD ERROR          2.7    2.5     2.7    2.5    1.1     1.0     4.5    2.8    4.7     3.8    3.1    2.6    2.8     0.6    2.0    3.4  4.8   2.6     1.6      1.1    2.9
BAL   EFFECT      -1.8   -2.1     0.7    3.0    0.1    -0.1    -4.4   -5.3    7.7    -7.0   -1.6    3.2    0.3     2.0   -9.0   -6.9 -4.5  -8.7    -3.9      5.6   -6.0
STD ERROR          2.5    2.4     2.3    2.3    1.1     1.0     4.7    2.8    4.2     4.1    2.9    2.4    2.5     0.6    2.3    3.6  4.7   2.5     1.6      1.2    3.1
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0744 NATL % 28.4 (Text for this exercise was not released)																					
UNADJ EFFECT	3.3	-4.7	0.5	0.2	1.5	-1.2	-3.0	-10.2	3.9	-3.5	-0.8	8.5	-3.0	2.3	-10.0	-5.1	-2.5	-11.5	-2.4	5.2	0.8
STD ERROR	1.9	2.3	2.3	1.7	1.3	1.3	4.7	2.9	4.2	3.0	2.5	2.2	2.2	0.6	2.3	3.6	5.9	2.6	1.5	1.1	3.5
BAL EFFECT	2.7	-2.4	-0.1	-0.6	1.1	-1.0	-0.5	-6.3	0.6	-4.1	-2.4	7.5	-1.9	1.1	-4.8	-2.0	-1.1	-10.2	-2.4	4.4	2.2
STD ERROR	1.8	2.2	2.1	2.0	1.3	1.3	4.9	3.3	3.9	2.7	2.4	2.3	2.3	0.6	2.6	4.1	6.5	2.5	1.4	1.0	3.4
EXER: 0745 NATL % 24.9 (Text for this exercise was not released)																					
UNADJ EFFECT	0.1	-0.5	0.8	-0.6	4.4	-3.7	-3.2	-2.5	5.5	-2.2	1.3	-1.9	0.6	1.8	-7.5	-7.1	-0.1	-3.2	-5.0	4.5	-6.4
STD ERROR	2.6	2.8	2.2	2.2	1.3	1.1	2.6	4.3	3.6	3.0	3.6	2.3	2.1	0.5	2.2	3.0	5.5	3.7	1.8	1.2	3.5
BAL EFFECT	-0.4	0.7	0.7	-1.0	4.1	-3.8	-1.7	3.9	3.0	0.7	0.2	-2.7	0.5	1.7	-7.2	-6.7	2.0	-2.4	-4.9	4.1	-6.2
STD ERROR	2.5	2.5	2.3	2.1	1.2	1.0	2.8	4.6	3.4	2.8	3.3	2.2	2.0	0.6	2.4	3.5	5.6	3.7	1.8	1.2	3.6
EXER: 0746 NATL % 21.1 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.6	-4.1	3.0	0.6	3.2	-3.6	-8.3	-7.2	6.4	-2.8	1.4	-0.4	1.5	1.6	-9.6	-1.2	-11.5	-12.1	-2.4	7.6	-11.4
STD ERROR	1.9	2.0	2.1	2.1	1.1	1.2	2.6	3.1	2.5	2.8	2.4	2.4	2.1	0.4	2.1	4.2	3.1	2.4	1.5	1.1	2.4
BAL EFFECT	-1.9	-0.8	3.0	-0.7	3.4	-3.8	-6.2	-1.7	5.2	-1.8	0.2	-1.2	1.2	0.5	-5.8	4.2	-10.4	-11.2	-1.8	7.0	-11.5
STD ERROR	1.8	2.2	1.8	1.9	1.1	1.2	2.8	3.2	2.3	2.6	2.4	2.1	2.0	0.4	2.3	3.8	3.1	2.4	1.4	1.1	2.6
EXER: 0747 NATL % 8.1 (Text for this exercise was not released)																					
UNADJ EFFECT	0.3	0.8	0.6	-1.5	0.3	-0.3	-1.4	5.0	-4.0	-0.7	1.1	1.9	-1.3	-0.8	2.0	6.2	-4.5	-1.4	0.2	0.2	1.7
STD ERROR	1.4	1.5	1.4	1.2	0.8	0.8	2.2	2.1	1.7	2.1	1.8	1.8	1.4	0.4	1.6	3.3	1.8	1.7	0.9	0.9	2.7
BAL EFFECT	-0.2	1.4	0.6	-1.5	0.3	-0.3	-1.8	2.7	-3.5	-1.4	1.6	2.2	-1.3	-0.8	1.8	8.0	-6.7	-2.1	0.1	0.6	1.6
STD ERROR	1.4	1.7	1.4	1.2	0.8	0.8	2.2	2.4	1.7	2.1	1.8	1.8	1.4	0.4	2.0	3.5	2.1	1.8	1.0	0.8	2.6
OBJECTIVE: Possess the ability and skills needed to engage in the processes of science.																					
EXER: 0748 NATL % 92.5 (Text for this exercise was not released)																					
UNADJ EFFECT	3.8	-8.3	3.3	-1.2	0.7	-0.3	-5.5	-9.5	4.8	-6.8	5.3	0.7	-0.4	4.2	-18.9	-10.9	-12.0	-6.7	0.6	4.3	-8.1
STD ERROR	1.1	2.9	1.1	1.6	0.6	0.5	3.1	3.1	1.8	4.4	1.1	1.3	2.7	0.9	3.4	3.0	4.1	2.5	0.9	0.8	3.1
BAL EFFECT	2.1	-4.0	1.5	-0.8	0.1	-0.1	-0.1	-0.8	1.5	-4.3	2.3	-0.6	-0.6	3.5	-15.9	-8.3	-6.1	-4.0	-0.5	3.0	-4.5
STD ERROR	0.8	1.6	1.0	1.4	0.6	0.5	2.1	2.8	2.5	3.5	0.8	0.9	1.9	0.9	3.3	2.9	1.5	2.5	0.8	0.6	2.5
EXER: 0749 NATL % 90.4 (Text for this exercise was not released)																					
UNADJ EFFECT	2.2	-3.7	-1.7	2.8	-1.1	1.0	-7.0	-11.0	4.3	-1.3	2.1	2.8	-1.8	3.0	-14.9	-8.7	-16.7	-4.8	-0.5	4.4	-14.6
STD ERROR	1.1	2.3	1.4	1.1	0.7	0.6	3.9	3.3	2.3	1.9	1.4	1.3	1.5	0.5	2.7	2.7	6.4	2.6	1.1	0.9	3.0
BAL EFFECT	0.9	-0.7	-2.1	2.1	-0.9	0.8	-2.1	-0.6	0.9	1.7	0.7	1.0	-2.3	2.4	-12.3	-6.7	-13.9	-3.6	0.1	3.8	-13.1
STD ERROR	0.9	1.6	1.2	0.8	0.6	0.6	3.2	3.3	2.3	1.9	1.2	1.0	1.4	0.5	2.7	2.5	6.2	2.3	1.0	0.9	3.3
EXER: 0750 NATL % 79.3 (Text for this exercise was not released)																					
UNADJ EFFECT	5.5	-9.5	-0.1	2.6	-3.5	3.0	-21.6	-22.5	13.1	-9.6	3.2	2.2	4.5	5.1	-25.9	-16.8	-13.4	-8.2	-2.7	7.0	-10.4
STD ERROR	1.9	2.8	2.4	1.9	1.1	1.0	4.2	4.7	2.2	5.4	2.4	2.2	2.4	0.8	3.3	4.7	5.4	3.9	1.8	1.1	4.2
BAL EFFECT	3.6	-3.4	-2.4	2.3	-3.0	2.8	-13.5	-8.8	9.3	-7.0	0.9	-0.1	4.1	4.0	-19.2	-15.7	-4.2	-4.9	-3.4	5.3	-7.2
STD ERROR	2.0	2.8	2.1	1.6	1.0	0.9	3.5	4.3	2.8	4.5	2.6	2.2	2.2	0.7	3.0	4.4	4.3	3.5	1.8	1.1	3.4

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EXER: 0751  NATL % 73.4   (Text for this exercise was not released)

UNADJ EFFECT      3.9  -2.8   -3.2   1.8    4.2   -4.0   -5.9  -8.6    7.8 -15.5    7.6   3.8  -2.3    2.5  -8.3 -15.6   -6.7  -4.0   -3.2    5.1  -7.8
STD ERROR         2.3   2.3    2.3   2.1    1.1    1.1    7.2   4.3    2.5   4.8    2.3   1.9   2.1    0.6   3.1   3.6    4.7   3.2    1.8    1.1   2.8
BAL   EFFECT      2.8  -1.6   -3.2   2.0    3.9   -3.8   -4.9  -2.7    5.7 -13.0    5.4   2.3  -1.3    1.8  -4.5 -13.7   -2.6  -1.8   -2.9    3.4  -4.0
STD ERROR         2.0   2.3    2.0   2.3    1.1    1.1    7.5   4.4    2.3   4.7    2.4   1.9   2.2    0.6   3.4   3.3    4.6   3.2    1.7    1.0   3.0

EXER: 0752  NATL % 72.2   (Text for this exercise was not released)

UNADJ EFFECT     -3.0  -7.7    8.4  -0.6    3.3   -3.4   -6.5 -30.4    5.4  -5.1    6.3   4.1   3.2    6.3 -27.0 -12.0  -18.2  -4.1   -1.0    9.1 -22.2
STD ERROR         4.3   2.8    2.5   2.7    1.2    1.3    6.5  10.5    3.2   4.5    2.6   3.0   3.3    1.8   5.4   3.7    4.8   3.3    2.2    1.6   8.1
BAL   EFFECT     -2.3  -4.3    6.3  -1.4    2.9   -3.0   -4.4 -11.1    1.5  -1.9    2.9   1.8   1.2    4.2 -18.4  -6.7  -14.3  -1.1   -2.5    6.5 -11.5
STD ERROR         2.3   2.3    2.0   2.3    1.1    1.1    4.1   7.0    3.1   4.0    2.2   2.5   2.2    1.2   3.7   4.6    5.2   3.1    1.8    1.1   4.6

EXER: 0753  NATL % 69.9   (Text for this exercise was not released)

UNADJ EFFECT     -3.7  -5.6    7.6  -0.6    1.1   -1.1   -4.1 -36.8   10.7  -6.2    9.3  -0.6   5.8    8.3 -34.7 -18.2  -24.6  -5.4    1.0    9.8 -27.3
STD ERROR         4.2   4.1    2.5   3.1    1.3    1.3    6.7   6.3    3.5   4.7    3.0   3.4   2.8    1.6   3.8   4.6    6.6   3.6    2.2    2.0   7.1
BAL   EFFECT     -2.8  -0.4    4.1  -1.3    0.6   -0.7   -0.7  -9.4    5.5  -1.8    4.7  -4.0   2.5    6.3 -26.9 -11.5  -20.7  -3.4   -0.6    7.0 -14.4
STD ERROR         2.4   2.6    1.7   2.5    1.1    1.2    3.0   3.6    3.3   3.3    2.4   2.6   2.1    1.2   3.1   5.0    5.8   3.3    1.8    1.6   4.0

EXER: 0754  NATL % 63.0   (Text for this exercise was not released)

UNADJ EFFECT      7.9  -6.9   -0.6  -1.6    1.8   -1.7   -4.5 -23.9   15.2   2.3    4.1   7.6  -7.2    5.8 -24.8 -15.3  -18.9 -10.3   -4.7   11.2 -11.4
STD ERROR         2.9   3.9    3.3   2.4    1.3    1.3    4.0   5.1    4.0   4.3    3.3   2.6   4.4    1.1   3.2   5.1    5.4   3.4    1.6    1.3   4.4
BAL   EFFECT      5.4   0.9   -2.9  -3.5    1.3   -1.3   -0.3  -7.7    9.5   4.1    0.9   3.5  -7.5    4.4 -19.6  -9.4  -12.9  -6.7   -4.4    9.3 -10.9
STD ERROR         2.4   2.8    3.0   2.0    1.2    1.2    3.4   5.9    3.6   4.5    3.0   2.2   4.0    1.0   2.9   4.5    5.6   2.6    1.7    1.2   3.8

EXER: 0755  NATL % 59.1   (Text for this exercise was not released)

UNADJ EFFECT      3.0 -12.6    5.0   1.1    7.8   -5.5   -6.1 -18.4   -5.3  15.1   -2.4   5.6   0.9    3.2 -19.4  -1.6   -9.1 -12.6   -2.4    7.6 -19.4
STD ERROR         3.9   3.9    3.6   4.2    2.6    2.1    8.5   7.7    7.2   6.8    4.5   4.1   4.9    1.2   5.7   9.0   12.3   6.4    3.2    2.6   7.0
BAL   EFFECT      0.3  -8.3    4.5   1.1    5.8   -5.1   -4.7  -5.2   -8.5  14.3   -6.1   4.7   2.3    2.5 -15.1  -2.1   -6.8 -11.9   -1.9    6.3 -14.0
STD ERROR         4.1   4.5    3.5   4.2    2.3    2.0    8.6   8.0    6.9   7.6    4.8   3.9   4.8    1.3   5.8   9.3   14.3   6.7    3.1    2.6   7.2

EXER: 0756  NATL % 55.0   (Text for this exercise was not released)

UNADJ EFFECT      6.0 -12.6    5.1  -0.5    1.4   -1.1   -6.5 -23.2   17.1  -6.4    6.7   6.7  -4.5    6.2 -25.3 -18.2  -18.6 -14.9   -2.9    9.7  -5.7
STD ERROR         2.7   4.2    2.6   2.3    1.4    1.2    5.4   4.6    3.4   5.7    3.2   2.7   3.3    1.3   4.2   5.1    4.9   4.0    1.6    1.7   5.5
BAL   EFFECT      3.6  -5.8    2.9  -1.7    0.6   -0.5   -2.1  -8.8   11.2  -5.8    3.1   3.4  -4.0    4.1 -16.9 -12.2  -11.5 -10.4   -2.5    7.0  -4.2
STD ERROR         2.3   3.1    2.4   1.9    1.2    1.1    4.6   5.7    3.3   5.2    2.9   2.3   2.6    1.2   4.3   4.9    4.9   3.4    1.5    1.5   4.8

EXER: 0757  NATL % 52.2   (Text for this exercise was not released)

UNADJ EFFECT     -0.4  -3.9    2.0   1.2    7.5   -7.7   -4.8  -6.4    2.6  -3.0    0.8  -0.1   3.9    2.4  -9.9  -5.5  -20.9  -4.8    3.0    4.1 -12.4
STD ERROR         3.0   3.1    3.2   2.7    1.3    1.5    4.6   4.1    3.9   5.2    3.7   2.8   3.7    0.8   2.8   5.3    4.5   4.1    1.8    1.4   3.2
BAL   EFFECT     -0.3  -1.9    0.6   1.1    7.2   -7.4   -2.6   3.0    0.0  -1.1   -0.7  -2.0   3.4    1.6  -6.8  -3.7  -19.4  -2.8    2.3    3.5 -10.1
STD ERROR         2.6   2.9    2.9   2.8    1.3    1.4    5.0   4.3    3.9   5.3    3.4   2.5   3.1    0.8   3.2   5.5    4.9   4.0    1.8    1.4   3.2
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0758 NATL % 49.9 (Text for this exercise was not released)																					
UNADJ EFFECT	14.5	-14.2	-5.0	2.5	1.8	-1.6	-22.2	-26.7	24.1	-7.5	6.2	-0.1	-1.3	5.6	-35.6	-9.7	-0.5	-27.1	1.9	4.9	-3.5
STD ERROR	3.9	4.3	4.2	3.8	2.2	2.6	7.9	5.1	6.0	7.3	4.8	4.7	3.9	0.9	3.9	8.3	8.2	6.6	3.0	2.8	7.7
BAL EFFECT	12.3	-7.9	-5.7	0.2	0.6	-0.7	-10.1	-17.3	19.8	-4.8	1.1	-1.9	0.6	3.9	-23.8	-8.1	6.5	-15.9	1.9	0.7	1.3
STD ERROR	3.8	4.8	3.8	3.7	2.2	2.5	7.8	4.9	6.0	7.2	4.3	4.3	3.8	1.0	4.6	7.9	6.8	6.8	3.0	2.6	8.0
EXER: 0759 NATL % 47.0 (Text for this exercise was not released)																					
UNADJ EFFECT	4.5	-9.6	2.8	1.2	6.5	-6.1	-4.3	-22.6	16.1	-3.8	11.1	-1.7	-5.4	6.3	-29.9	-24.1	-23.5	-16.9	-2.0	9.0	-10.6
STD ERROR	3.0	3.6	2.3	2.5	1.3	1.2	6.6	3.5	3.9	5.5	3.1	2.9	2.8	0.8	2.4	3.5	4.5	3.3	1.9	1.4	1.6
BAL EFFECT	2.0	-4.2	0.3	1.4	6.1	-5.9	-2.0	-6.6	11.3	0.0	6.4	-4.1	-4.6	5.1	-24.1	-19.6	-14.8	-11.2	-2.1	6.1	-5.6
STD ERROR	2.8	2.7	2.1	2.2	1.2	1.2	5.7	5.1	3.4	3.4	2.8	2.7	2.6	0.8	2.7	3.8	4.5	3.2	1.7	1.3	3.3
EXER: 0760 NATL % 42.2 (Text for this exercise was not released)																					
UNADJ EFFECT	15.0	-13.3	-5.7	2.0	2.8	-3.0	-17.3	-28.2	30.4	-10.8	9.4	-2.8	-4.6	5.9	-34.9	-14.6	-4.3	-26.6	2.2	5.4	-6.0
STD ERROR	4.2	4.7	4.3	4.[illegible]	2.3	2.7	8.4	4.9	6.3	6.6	5.0	4.9	4.8	0.9	3.3	6.6	8.1	5.4	3.2	3.1	7.8
BAL EFFECT	12.6	-6.0	-6.4	-0.8	2.2	-2.5	-5.6	-17.6	27.1	-7.6	4.6	-4.9	-3.4	4.0	-23.3	-11.0	4.7	-14.2	2.9	0.4	-2.9
STD ERROR	4.2	4.9	4.2	4.3	2.1	2.4	8.1	4.9	6.5	6.0	4.6	4.7	4.3	0.9	3.8	6.8	7.0	5.7	3.1	2.8	7.3
EXER: 0761 NATL % 41.2 (Text for this exercise was not released)																					
UNADJ EFFECT	3.2	-10.6	3.9	2.0	-0.4	0.6	-0.6	-10.0	11.0	-4.1	4.2	3.4	-4.4	3.4	-16.7	-2.6	-4.8	-10.4	-6.4	8.7	-0.4
STD ERROR	2.5	2.7	1.8	2.3	1.4	1.3	3.9	3.8	4.1	5.3	2.6	2.2	2.8	0.8	2.3	5.7	6.2	3.8	1.7	1.3	3.7
BAL EFFECT	2.4	-6.3	3.0	-0.1	-1.2	1.1	3.1	-7.1	5.1	-4.0	1.7	1.7	-3.0	1.9	-10.6	0.9	-1.9	-7.8	-6.1	7.2	0.6
STD ERROR	2.1	2.8	1.9	2.5	1.3	1.3	3.0	3.8	3.9	5.0	2.6	2.0	2.5	0.8	2.7	6.6	5.9	3.6	1.8	1.4	3.8
EXER: 0762 NATL % 22.4 (Text for this exercise was not released)																					
UNADJ EFFECT	-3.7	2.8	3.4	-2.0	1.0	-0.2	10.9	-8.1	-2.8	5.2	-8.1	2.4	3.2	1.3	-6.9	-3.9	0.7	0.7	0.6	0.7	-12.1
STD ERROR	3.2	3.5	2.8	3.8	2.3	2.0	8.4	4.6	4.1	5.6	3.7	3.5	3.1	0.7	3.8	6.4	10.0	6.2	2.9	2.1	4.7
BAL EFFECT	-3.2	2.7	2.3	-1.2	0.4	-0.3	9.7	-1.4	-3.9	7.2	-8.5	2.1	1.6	1.4	-7.0	-4.1	-0.8	-1.1	0.2	1.2	-9.5
STD ERROR	3.0	3.9	2.8	4.3	2.3	2.0	8.8	6.5	4.7	5.8	4.0	3.5	3.1	1.0	5.1	7.1	10.1	6.5	2.9	2.1	4.8
EXER: 0763 NATL % 16.6 (Text for this exercise was not released)																					
UNADJ EFFECT	2.7	-1.8	1.3	-3.1	4.1	-3.1	-1.0	-11.6	0.1	-4.5	-1.1	2.6	4.1	1.8	-8.3	-7.2	-4.6	-7.8	-0.5	4.4	-16.6
STD ERROR	3.4	2.9	3.8	3.0	2.0	1.8	5.2	3.7	4.7	5.2	3.6	4.1	4.3	0.7	3.3	5.6	8.2	4.8	2.2	1.9	2.0
BAL EFFECT	1.6	-0.7	0.9	-2.3	3.5	-3.1	-0.4	-6.2	-0.9	-4.5	-2.9	2.2	4.6	0.8	-3.4	-3.8	-5.4	-8.4	-0.5	4.2	-13.0
STD ERROR	3.6	3.7	3.8	3.3	1.9	1.7	5.0	4.3	4.9	5.6	4.0	4.0	4.6	0.8	4.0	6.0	8.4	5.2	2.4	1.9	2.4
EXER: 0764 NATL % 13.0 (Text for this exercise was not released)																					
UNADJ EFFECT	2.3	-5.6	-1.5	4.3	-1.9	1.6	-9.2	-10.1	6.5	-3.7	3.1	0.7	-0.1	1.5	-8.7	-4.3	-6.9	-8.9	0.9	2.8	-4.5
STD ERROR	2.8	2.5	3.0	3.5	1.5	1.6	3.2	2.5	6.6	4.1	3.6	2.7	3.4	0.6	2.4	6.3	4.4	3.1	2.4	2.0	3.5
BAL EFFECT	1.3	-3.7	-1.9	4.2	-1.4	1.6	-6.6	-6.7	3.8	-3.3	1.3	1.0	0.6	0.8	-4.1	-2.6	-5.0	-5.9	1.0	1.5	-2.5
STD ERROR	3.0	2.5	2.9	2.9	1.4	1.6	3.6	3.0	5.9	4.0	3.8	2.8	3.6	0.6	2.6	5.9	3.3	3.0	2.0	1.9	3.8

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EXER: U765  NATL % 12.8   (Text for this exercise was not released)

UNADJ EFFECT       2.5   -6.3   -1.4    4.5   -1.7    1.8   -9.0  -10.0    6.7   -3.5    3.3    0.9   -0.9    1.5   -8.5   -4.1   -6.7   -8.8    0.6    3.0   -4.8
STD ERROR          2.8    2.4    3.0    3.5    1.5    1.6    3.2    2.5    6.6    4.1    3.6    2.7    3.4    0.6    2.4    6.3    4.4    3.1    2.4    2.0    3.5
BAL   EFFECT       1.5   -4.5   -1.7    4.4   -1.6    1.8   -6.3   -6.8    3.8   -3.2    1.5    1.3    0.1    0.7   -3.8   -2.6   -4.5   -5.5    0.7    1.6   -2.3
STD ERROR          3.0    2.3    2.9    2.9    1.4    1.6    3.5    3.0    5.9    4.0    3.8    2.8    3.6    0.6    2.6    5.9    3.3    3.0    2.0    1.9    3.8

EXER: U766  NATL % 11.2   (Text for this exercise was not released)

UNADJ EFFECT       3.8   -6.7    3.3   -2.7    2.0   -1.9   -4.4   -9.5    9.6   -4.0    3.5    1.5   -3.7    1.6   -8.0   -4.7   -5.2  -10.5    1.0    3.4  -11.2
STD ERROR          3.0    2.3    2.8    2.4    1.7    1.5    4.4    1.8    5.3    3.0    2.8    3.1    2.7    0.5    2.3    4.5    6.3    1.6    2.4    1.6    1.6
BAL   EFFECT       2.2   -4.5    3.4   -2.7    2.6   -2.3   -4.1   -7.0    9.7   -4.5    1.5    1.5   -2.8    0.4   -2.0   -1.3   -2.6   -8.8    1.8    1.9   -7.9
STD ERROR          3.0    2.6    2.7    2.7    1.8    1.5    4.7    2.6    5.2    3.1    2.9    2.9    2.9    0.5    2.8    4.8    5.8    1.8    2.3    1.6    1.9

OBJECTIVE:    Understand the investigative nature of science.

EXER: U767  NATL % 89.0   (Text for this exercise was not released)

UNADJ EFFECT      -0.5   -1.0    4.9   -4.3   -1.1    1.2    3.1   -9.5   -3.5   -3.0    1.2   -0.3    4.3    1.4   -4.0  -10.1   -1.9   -2.7   -0.9    2.5   -6.4
STD ERROR          1.8    1.6    1.1    1.6    0.8    0.8    1.8    3.4    2.3    1.9    1.9    1.8    1.4    0.4    1.8    3.8    4.2    2.4    1.0    0.8    2.8
BAL   EFFECT       0.4   -1.9    4.1   -3.7   -1.1    1.2    3.3   -8.1   -3.7   -2.3    0.1   -0.3    4.4    0.5   -0.7   -6.6   -1.7   -2.6   -1.4    2.0   -1.0
STD ERROR          1.6    1.7    1.2    1.8    0.8    0.8    1.5    3.6    2.1    2.0    1.7    1.6    1.3    0.5    1.9    3.7    4.2    2.3    1.0    0.8    2.4

EXER: U768  NATL % 67.6   (Text for this exercise was not released)

UNADJ EFFECT       0.4   -7.1    5.8   -1.3   -1.8    2.1   -6.3  -20.1    9.2   -3.1    1.5   -0.9    4.1    4.5  -21.7  -15.1  -20.6  -15.3   -1.6    9.0  -13.2
STD ERROR          2.5    2.6    2.1    2.3    1.2    1.4    3.9    3.8    3.3    4.9    3.7    2.3    2.2    0.8    2.9    3.8    5.2    3.7    1.8    1.2    5.5
BAL   EFFECT      -0.2   -3.7    5.1   -2.6   -2.1    2.4    1.1   -7.0    5.7   -0.2   -1.3   -3.2    3.2    3.2  -16.5   -8.5  -16.8  -13.0   -1.4    7.5  -10.5
STD ERROR          1.9    2.2    1.6    2.3    1.1    1.2    2.9    3.9    3.4    4.4    3.1    1.8    2.0    0.8    3.2    4.4    5.1    3.8    1.6    1.3    4.5

EXER: U769  NATL % 66.6   (Text for this exercise was not released)

UNADJ EFFECT      -2.9   -1.0    0.9    2.9   -2.2    1.9    0.5   -6.8   -5.9    4.1   -1.8    1.9    2.3    0.3   -2.2    0.2   14.3   -1.1   -1.2    1.7   -8.1
STD ERROR          2.3    2.4    2.2    2.4    1.3    1.1    3.7    4.2    5.4    3.7    2.5    2.1    2.3    0.5    3.1    4.0    4.2    3.0    2.2    1.2    2.9
BAL   EFFECT      -2.4   -1.8    0.6    3.6   -2.1    1.9   -0.4   -5.4   -6.6    4.6   -1.2    2.0    1.5    0.2   -0.5   -1.3   13.6   -1.4   -1.3    1.7   -7.3
STD ERROR          2.2    2.5    2.2    2.4    1.2    1.1    4.1    4.5    5.9    3.9    2.4    2.0    2.5    0.6    3.4    3.9    4.5    2.9    2.2    1.3    3.0

EXER: U770  NATL % 45.9   (Text for this exercise was not released)

UNADJ EFFECT       1.7   -4.3    4.9   -2.7   -1.7    1.6   -0.8   -7.2    2.8   -3.5    3.4   -2.8    3.2    3.4  -16.0  -13.6  -14.5   -3.3    0.2    4.2  -11.5
STD ERROR          2.6    2.8    2.4    2.7    1.5    1.4    6.4    3.6    3.8    4.6    3.0    2.8    3.3    0.7    2.9    4.5    5.3    3.4    1.7    1.4    3.4
BAL   EFFECT       1.3   -2.6    2.8   -1.9   -1.7    1.6    0.4    1.4    0.6   -1.6    0.9   -3.9    3.2    2.8  -14.2   -8.9  -11.3   -1.7   -0.8    3.7   -8.6
STD ERROR          2.4    3.0    2.6    2.7    1.5    1.4    5.4    3.9    3.8    4.0    3.0    2.7    3.2    0.7    2.8    5.0    5.3    3.3    1.6    1.4    3.5

OBJECTIVE:    Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate  understandings.

EXER: U771  NATL % 93.4   (Text for this exercise was not released)

UNADJ EFFECT      -0.5   -2.3    1.5    1.0   -0.8    1.1   -2.1   -5.0    4.9   -3.2   -0.0    3.4   -0.9    1.4   -6.6   -2.1   -0.1   -3.3   -0.0    1.9   -4.3
STD ERROR          1.0    1.4    1.0    1.0    0.6    0.5    2.0    1.9    1.1    2.7    1.3    0.9    1.3    0.4    1.3    2.1    2.3    2.3    0.8    0.7    2.4
BAL   EFFECT      -1.1   -0.7    1.3    0.5   -1.2    1.2   -1.6   -1.0    3.6   -2.3   -0.4    2.4   -1.3    1.1   -5.2   -1.6    1.2   -2.3    0.1    1.2   -3.4
STD ERROR          0.8    1.2    1.0    0.9    0.5    0.5    1.8    2.1    1.4    2.6    1.2    0.9    1.2    0.4    1.5    2.2    2.6    2.1    0.8    0.7    2.5
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: U772 NATL % 92.0 (Text for this exercise was not released)																					
UNADJ EFFECT	-1.4	-0.3	1.2	0.3	2.2	-1.9	-2.2	0.1	-1.7	-3.7	2.1	1.0	-0.3	0.6	-2.8	-1.6	2.6	1.1	-0.9	-0.2	1.6
STD ERROR	1.1	1.2	1.1	1.3	0.6	0.6	1.8	2.1	2.0	2.8	1.2	1.1	1.3	0.4	1.6	3.2	2.1	1.8	0.9	0.6	1.6
BAL EFFECT	-2.3	0.4	1.1	0.7	2.2	-1.9	-2.6	2.3	-1.8	-4.1	2.2	0.9	-0.7	0.7	-3.4	-2.3	3.3	1.3	-1.0	-0.5	2.8
STD ERROR	1.1	1.2	1.0	1.4	0.7	0.6	1.9	2.2	2.1	2.8	1.3	1.1	1.4	0.4	1.8	3.3	2.3	1.8	0.9	0.6	1.6
EXER: U773 NATL % 37.9 (Text for this exercise was not released)																					
UNADJ EFFECT	4.7	-12.0	5.4	-1.9	3.5	-3.7	-3.6	-13.2	8.0	-1.1	6.3	0.2	-2.6	3.9	-14.6	-14.6	-23.7	-11.4	-3.7	10.5	-11.6
STD ERROR	2.7	2.4	2.2	2.3	1.5	1.5	4.5	3.9	4.5	3.4	3.0	3.0	2.5	0.8	2.4	3.4	3.6	3.2	1.8	1.4	2.7
BAL EFFECT	4.3	-7.9	3.4	-2.3	3.4	-3.5	1.1	-2.9	3.3	1.0	3.2	-1.8	-2.0	2.6	-9.7	-9.2	-18.9	-7.3	-4.7	8.9	-7.5
STD ERROR	2.8	2.5	2.1	2.3	1.4	1.4	2.3	3.7	3.6	3.4	2.9	2.8	2.6	0.6	2.3	3.7	3.4	3.3	1.7	1.5	3.0
EXER: U774 NATL % 19.0 (Text for this exercise was not released)																					
UNADJ EFFECT	1.1	4.3	-3.0	-1.2	6.4	-6.9	-1.6	-1.9	-2.8	-2.3	2.0	-2.1	4.4	0.0	0.1	-0.2	4.3	-3.9	1.4	-0.0	-4.5
STD ERROR	1.7	2.1	1.8	1.7	1.1	1.2	3.5	3.2	2.4	3.3	1.9	1.7	2.1	0.5	3.1	4.0	5.7	3.4	1.4	1.4	4.2
BAL EFFECT	0.8	4.1	-2.8	-0.9	6.6	-6.8	-1.3	-1.1	-1.5	-2.1	2.1	-2.8	3.9	-0.2	1.2	0.4	1.6	-4.3	1.4	0.5	-5.6
STD ERROR	1.8	2.3	1.8	1.6	1.1	1.2	3.3	3.0	2.4	3.4	1.9	1.8	2.2	0.5	3.1	3.9	5.8	3.3	1.4	1.3	4.2
EXER: U775 NATL % 5.3 (Text for this exercise was not released)																					
UNADJ EFFECT	1.8	-0.6	0.8	-2.4	2.3	-2.1	-2.5	-0.1	1.2	2.8	0.9	0.8	-2.9	0.0	0.1	-1.1	-3.9	-0.9	-1.1	0.8	1.9
STD ERROR	0.9	1.0	1.1	0.8	0.6	0.5	1.2	2.7	2.2	1.8	1.0	1.1	0.8	0.3	1.5	1.7	1.5	1.6	0.9	0.7	1.8
BAL EFFECT	1.3	0.2	0.9	-2.8	2.2	-2.0	-1.7	-0.4	1.7	2.6	0.5	0.6	-2.7	-0.0	-0.1	0.4	-2.5	-0.3	-1.1	0.6	1.5
STD ERROR	1.0	1.0	1.1	0.9	0.6	0.6	1.3	2.8	2.3	1.7	0.9	1.1	0.9	0.3	1.4	1.8	1.6	1.6	0.8	0.7	1.7

AGE 17

OBJECTIVE: Know fundamental facts and principles of science.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: R301 NATL % 97.6 Identify groups of animals and plants which would be found in a desert community.																					
UNADJ EFFECT	-0.6	-2.1	1.3	0.9	0.2	-0.2	1.2	-2.6	1.7	-1.7	0.9	1.2	-1.0	0.8	-5.0	0.9	-0.8	-3.3	-0.0	1.5	-97.6
STD ERROR	1.1	1.7	0.6	0.8	0.6	0.6	0.8	2.2	0.8	1.9	0.8	0.8	1.8	0.4	2.1	1.0	1.5	2.3	0.8	0.6	0.6
BAL EFFECT	-0.8	-1.3	1.1	0.8	0.1	-0.0	1.3	-0.7	0.5	-1.8	0.2	1.0	-0.6	0.6	-3.9	0.6	-0.4	-2.4	0.0	1.0	-97.2
STD ERROR	1.0	1.5	0.7	0.7	0.6	0.6	1.0	2.6	0.6	1.6	0.7	1.0	1.4	0.5	2.6	1.1	1.4	2.3	0.8	0.6	1.0
EXER: R302 NATL % 93.7 Choose from five alternatives, the best balanced meal.																					
UNADJ EFFECT	-3.4	0.2	1.0	2.4	-1.8	1.7	-16.2	-5.5	6.0	-1.2	4.9	1.1	-1.4	1.3	-9.9	-1.8	-6.1	-7.3	2.6	3.7	-21.6
STD ERROR	2.7	2.1	2.1	1.5	1.2	1.1	10.7	5.8	1.3	2.4	1.3	2.0	2.6	0.7	4.2	4.4	6.2	3.7	1.4	1.3	8.4
BAL EFFECT	-4.2	4.1	0.3	0.8	-2.0	1.9	-15.7	-0.2	5.9	-0.6	4.3	0.1	-1.9	1.0	-9.2	2.3	-5.2	-5.4	2.6	2.7	-23.6
STD ERROR	2.6	2.7	1.9	0.9	1.0	1.0	10.3	5.4	1.7	2.2	1.3	1.6	2.3	0.7	4.6	4.7	4.9	3.2	1.5	1.0	7.6

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EXER: R303  NATL % 91.8   Nearly all gasoline at the present time comes from petroleum.

UNADJ EFFECT      -5.2   2.5   2.8   0.5   3.5  -1.4   2.1  -9.5   6.3  -0.6  -6.8   0.4   4.4    2.3  -8.5 -17.2   -2.9  -7.8    3.6     1.6  -0.9
STD ERROR          3.0   1.9   1.5   2.5   1.5   1.4   2.6   4.4   1.6   3.0   5.4   3.2   1.7    1.0   3.6  13.2    4.9   4.6    1.5     1.8   7.3
BAL   EFFECT      -5.6   3.0   3.3  -0.1   1.7  -1.5   0.4  -7.1   6.6   0.9  -6.3  -0.7   3.5    1.9  -6.0 -16.1   -2.6  -6.4    3.4     1.1  -0.7
STD ERROR          2.5   1.9   1.7   2.4   1.3   1.1   2.5   4.3   2.2   2.5   4.3   3.0   1.8    1.0   3.5  11.9    4.0   4.2    1.4     1.6   5.6

EXER: R304  NATL % 88.1   Given five animals found as fossils, select dinosaurs as the only one not seen alive by man.

UNADJ EFFECT       1.6  -1.3  -2.0   2.3   2.0  -1.8 -11.4 -16.0   3.2   7.2   3.4   3.1  -1.0    2.0 -11.8  -7.0   -9.2  -7.1    2.1     4.4  -2.7
STD ERROR          2.6   2.6   2.3   1.8   1.3   1.1   7.6   5.0   3.3   1.8   2.1   2.9   2.7    0.6   4.0   5.3    6.0   3.5    1.6     1.3   6.7
BAL   EFFECT       0.6   1.6  -1.3  -0.3   1.8  -1.6  -9.7 -11.0   1.0   7.9   1.8   2.4  -0.6    1.3  -8.3  -2.8   -7.7  -5.0    2.0     3.1  -2.4
STD ERROR          2.7   2.8   2.2   1.7   1.2   1.0   7.4   5.5   3.3   2.0   2.2   2.7   2.7    0.7   4.2   6.5    5.7   3.2    1.6     1.1   6.0

EXER: R305  NATL % 76.4   The movement and characteristics of air masses are important in predicting weather.

UNADJ EFFECT       0.2  -9.7   7.1  -0.9   2.8  -0.5  -2.9 -15.3  10.3  -8.1   0.8   4.8  -1.2    5.5 -30.5 -12.1  -10.5 -10.2    0.0     7.2 -19.1
STD ERROR          3.1   2.3   2.0   3.1   1.4   1.2   7.9   5.8   2.3   3.5   3.6   2.7   3.1    1.1   3.9  10.2    5.3   3.9    1.9     1.6  12.1
BAL   EFFECT      -0.9  -5.2   5.9  -2.3  -0.2   0.2   2.4  -6.1   5.1  -6.2  -1.1   2.5   0.6    4.6 -24.9 -10.8   -8.0  -7.1   -0.4     5.8 -19.1
STD ERROR          2.5   2.5   2.0   2.9   1.3   1.0   5.9   4.6   2.5   3.2   2.7   2.6   3.1    1.1   4.4  10.4    4.5   4.0    1.8     1.5  10.1

EXER: R306  NATL % 66.9   Recognize that outlawing the use of insecticides does not help to increase the total amount of food available to the
                          human race.

UNADJ EFFECT       1.8 -12.1   3.4   3.9   4.1  -3.5  -5.3 -31.3   5.9   0.9   4.0   0.6   2.4    3.5 -24.8  -9.7  -11.4 -16.0    0.6     9.8 -23.5
STD ERROR          3.8   4.3   3.0   2.7   1.7   1.5   9.1   5.9   5.1   4.1   4.9   2.9   3.1    0.9   4.2   9.1    8.9   3.6    2.2     2.0   9.4
BAL   EFFECT       1.9  -8.3   2.2   2.2   2.8  -2.7   1.4 -23.0   1.0   0.6   2.5  -0.9   3.9    2.0 -13.5  -7.3   -8.3 -12.9   -0.2     8.3 -22.9
STD ERROR          3.3   4.5   2.8   2.6   1.4   1.3   8.4   6.8   4.4   4.3   4.6   2.8   2.8    0.7   4.4   8.0    8.5   3.6    2.1     1.9   8.9

EXER: R307  NATL % 68.0   Galaxies contain many stars.

UNADJ EFFECT       6.6  -4.9  -1.7  -0.6   1.9  -2.1  -3.3  -5.2  -2.3   6.9   5.4  -2.7  -2.0    1.5 -10.9   0.9  -11.6 -10.1    3.0     4.1   5.5
STD ERROR          2.5   2.6   2.6   2.3   1.5   1.3   7.1   4.7   3.7   3.0   2.6   2.8   2.8    0.8   4.1   8.8    6.3   3.8    1.8     1.6   7.6
BAL   EFFECT       6.2  -0.3  -2.8  -2.6   2.2  -1.9  -1.6  -0.2  -5.4   7.5   3.1  -4.8   0.5    1.3  -8.8   0.2  -10.5  -9.6    2.6     3.8   6.7
STD ERROR          2.3   2.8   2.6   2.3   1.4   1.2   6.8   5.3   3.7   3.0   2.4   2.7   2.7    0.8   4.6   7.1    5.4   3.8    1.8     1.7   8.8

EXER: R308  NATL % 65.3   An electric current in a copper wire involves the movement of electrons.

UNADJ EFFECT      -3.3   0.4   4.2  -2.3   5.6  -5.6   0.2  -2.6   6.0  -3.2   0.2   0.4  -0.3    1.6  -4.5 -10.9  -10.7  -8.5    2.9     4.9 -19.5
STD ERROR          2.5   2.6   2.5   2.2   1.6   1.5   6.2   4.4   3.5   4.8   3.4   2.8   3.4    0.8   4.1   6.4    6.4   3.3    1.8     1.7   8.8
BAL   EFFECT      -3.7   1.9   4.1  -3.1   5.7  -5.6   0.8  -0.3   4.4  -3.2  -1.3   0.8  -0.0    0.7   0.3  -9.2   -9.7  -4.8    2.3     5.1 -16.2
STD ERROR          2.6   2.8   2.5   2.4   1.5   1.5   6.0   5.0   3.7   4.7   3.3   3.0   3.4    0.9   4.6   6.3    6.9   3.3    1.8     1.7   9.7

EXER: R309  NATL % 65.6   The idea of natural selection is usually associated with Darwin's theory of evolution.

UNADJ EFFECT       0.5 -14.3   3.1   8.4   4.9  -2.4 -10.4 -23.6   3.7   8.6   0.4   5.4  -3.2    6.7 -32.2 -22.3  -25.8 -20.0    6.0    11.0 -34.7
STD ERROR          3.5   3.3   3.3   2.6   1.9   1.5   6.9   5.8   5.6   3.6   5.2   3.7   3.7    1.1   3.7   9.3    5.5   3.6    2.3     2.1   9.5
BAL   EFFECT      -0.6  -8.3   1.8   5.9   1.5  -1.2  -3.7 -10.9  -5.4   8.1  -2.4   2.3   2.1    5.4 -24.8 -20.7  -21.1 -16.8    5.5     9.1 -34.0
STD ERROR          3.0   3.5   2.9   2.4   1.6   1.3   5.3   5.3   5.1   2.5   4.5   3.3   3.4    1.1   4.0   8.9    5.5   3.5    2.0     1.9  10.7

EXER: R310  NATL % 67.1   Conversion of limestone to marble or of soft coal to hard coal is brought about by heat and pressure below the
                          earth's surface.

UNADJ EFFECT       4.5  -2.2  -0.9  -1.8   9.1  -6.7  -2.9  -8.5   3.1  -0.7  -2.0   2.5   3.1    3.9 -12.4 -34.4   -6.0  -8.8   -1.6     5.9  -0.7
STD ERROR          2.8   3.0   2.4   2.3   1.5   1.5   5.7   5.1   4.2   3.5   4.7   3.1   2.4    1.0   4.2   7.8    4.9   3.7    2.1     2.1  12.6
BAL   EFFECT       5.4  -2.2  -1.4  -2.2   7.4  -6.4  -0.9  -1.4  -1.4   0.0  -3.8  -0.0   5.1    3.3  -8.1 -28.6   -3.6  -7.2   -1.7     4.6   4.4
STD ERROR          2.5   2.8   2.2   2.1   1.5   1.4   4.9   4.8   4.0   3.3   4.3   2.7   2.5    1.1   4.3   8.7    5.0   3.6    2.0     1.9  12.3
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                           REGION                        SEX                  SIZE AND TYPE OF COMMUNITY                      COLOR                     HIGH SCHOOL EDUCATION

                                                                  EXTREME  INNER EXTREME INNER  URBAN  MEDIUM SMALL   NON
                  N.EAST S.EAST  CENTRAL  WEST      MALE   FEMALE  RURAL    CITY   AFF SUB FRINGE FRINGE  CITY   CITY   BLACK  BLACK  OTHER    NONE   SOME  GRADUATED  POST UNKNOWN

EXER: R311  NATL % 62.5    The solid, liquid, and gaseous states of water differ in the average speed with which their molecules are moving.

UNADJ EFFECT       7.9   -6.7    -1.1   -1.8      3.4    -2.8     2.4  -19.2    4.9   -0.4    4.8    2.2   -4.5     2.4  -16.3   -8.4     1.5  -11.0    -1.9       6.8  -32.7
STD ERROR          3.3    4.3     3.1    2.4      1.6     1.6     5.7    6.9    5.5    3.6    4.0    4.1    3.1     0.8    4.3    7.7     7.8    4.0     2.3       1.8   10.2
BAL   EFFECT       7.9   -4.7    -1.8   -2.7      2.4    -2.2     5.5  -14.4    0.8   -0.5    4.6    0.8   -2.8     1.4  -10.4   -2.2     3.4   -8.9    -2.7       6.0  -32.0
STD ERROR          3.0    4.2     3.2    2.7      1.5     1.4     6.0    7.5    5.0    3.5    4.1    3.9    3.1     0.8    5.7    7.4     7.2    3.4     2.3       1.5   10.7

EXER: R312  NATL % 59.8    Certain wavelengths of light can be detected by the unaided human eye.

UNADJ EFFECT       3.9   -7.6    -2.4    5.8      6.5    -6.1   -12.4  -24.5    2.7    5.7    6.8    6.5   -7.2     3.2  -25.1    4.7   -18.1  -14.4     1.2       9.7  -22.1
STD ERROR          3.6    3.4     2.8    2.9      1.6     1.2     6.6    4.8    4.4    3.1    5.0    3.2    3.8     1.0    3.4    9.4     5.6    3.9     2.0       1.7   11.0
BAL   EFFECT       1.3    0.1    -3.1    2.5      5.8    -4.6    -9.8  -14.3   -3.6    5.4    4.3    4.6   -3.1     2.3  -19.9    6.3   -13.9  -11.2     1.7       7.4  -23.7
STD ERROR          2.7    3.3     2.5    2.7      1.4     1.1     6.1    4.6    4.0    2.9    3.8    2.9    3.4     0.8    3.7    7.5     5.6    4.2     1.9       1.7   10.2

EXER: R313  NATL % 56.8    Research into the nature of matter shows that it is made up of individual moving particles.

UNADJ EFFECT       2.4  -10.6     1.9    4.2     -1.2     1.1    -6.1  -12.1    9.9    3.5    0.5   -2.0    4.3     3.4  -13.3  -16.1    -9.7  -13.5     0.5       7.8   -0.9
STD ERROR          2.9    2.8     2.3    2.4      1.6     1.5     8.0    3.9    5.0    5.0    2.9    3.7    3.4     0.8    3.3    6.8     7.1    2.9     2.6       1.5    6.5
BAL   EFFECT       1.8  -10.0     2.2    3.9     -2.5     2.2    -2.5   -7.1    6.0    3.3   -4.7   -1.9    6.6     2.3   -7.1  -16.9    -7.6  -11.8     1.0       6.3   -3.0
STD ERROR          3.0    2.7     2.2    2.6      1.6     1.5     6.6    4.2    5.1    4.9    3.0    3.5    2.9     0.8    3.5    6.0     0.8    2.8     2.6       1.7    6.2

EXER: R314  NATL % 56.8    In terms of natural selection, choose the best explanation of why giraffes have long necks.

UNADJ EFFECT       3.6   -8.3     2.3    0.1      0.6    -0.2    -6.8  -16.8    7.1    4.5    1.3    3.3   -4.3     0.6   -4.7   -0.8   -13.9   -3.5    -2.4       6.4   -7.7
STD ERROR          3.6    4.4     2.8    2.9      1.6     1.5     8.7    7.9    5.6    3.7    4.1    3.2    3.4     0.7    5.3    7.9     8.7    4.5     2.0       2.1   10.0
BAL   EFFECT       2.9   -6.6     3.2   -1.9     -0.3     0.2    -2.4  -16.2    5.4    3.7    1.1    2.9   -3.9    -0.3    1.5    2.6   -12.5   -1.5    -2.9       5.6   -7.8
STD ERROR          3.7    4.7     3.1    3.1      1.5     1.4     8.1    8.3    6.2    3.7    3.8    3.2    3.3     0.7    5.5    8.1     8.1    4.1     2.0       2.0   10.1

EXER: R315  NATL % 56.1    The temperature of 2 pints of water at 40 degrees mixed with one pint of water at 100 degrees will be about 60 degrees.

UNADJ EFFECT      -0.2   -9.4     4.0    3.8      2.6    -1.3   -11.6    3.1    6.3   -7.4   -1.1    4.9   -1.8     2.9  -18.4  -15.6   -15.9   -3.6     2.2       2.2    6.6
STD ERROR          2.7    3.4     2.1    2.4      1.5     1.3     4.5    4.4    5.3    3.2    4.9    3.3    3.1     0.8    3.9    8.6     6.8    4.4     2.1       2.0   11.2
BAL   EFFECT      -1.3   -7.1     3.7    3.4      1.4    -1.2    -8.4    9.1    3.9   -7.5   -2.9    3.6   -0.9     2.7  -12.0  -16.6   -13.6   -1.2     1.4       1.3    5.9
STD ERROR          2.4    3.1     2.2    2.4      1.5     1.3     5.6    3.5    5.2    3.2    4.3    3.2    2.7     0.8    3.5    8.3     6.1    3.8     1.9       1.7    9.4

EXER: R316  NATL % 53.9    Adrenaline acts as a stimulant to the heart.

UNADJ EFFECT       4.7  -10.7    -2.3    7.9      5.0    -4.5   -11.1  -17.5   20.0    3.4    3.1    3.3   -7.4     4.9  -30.5  -14.9   -18.4  -18.5     1.8      13.0  -32.0
STD ERROR          3.6    4.3     3.3    2.9      1.8     1.6     6.4    6.2    6.0    3.9    4.1    4.1    3.6     1.0    4.0    7.1     6.5    3.6     2.4       1.9   10.0
BAL   EFFECT       2.5   -4.1    -2.0    3.7      3.9    -3.6    -5.8   -3.6   13.0    4.0   -2.2    1.8   -5.3     3.7  -24.1   -8.7   -15.7  -13.8     2.4       9.7  -35.0
STD ERROR          3.0    3.5     2.8    2.4      1.6     1.4     6.0    6.5    4.6    3.2    3.5    1.6    3.0     0.9    4.8    6.0     6.1    3.1     2.2       1.8    9.4

EXER: R317  NATL % 55.8    Mercury can be used in a glass thermometer because when heated it expands more than the glass.

UNADJ EFFECT       2.4   -9.1     0.1    5.2     12.4   -11.0    -3.5  -14.7    1.6    6.0    0.4    3.6   -3.0     1.0   -8.6    2.5    -9.8  -13.4    -0.5       7.1    5.6
STD ERROR          2.9    3.6     2.6    2.5      1.8     1.2     5.8    6.8    4.5    4.6    4.3    3.7    2.8     0.8    3.2    7.4     6.9    3.7     2.2       1.9   14.8
BAL   EFFECT       3.3   -7.4     0.6    2.7     12.8   -10.4     0.6   -9.9   -8.0    3.9   -1.7    1.8    2.1     0.2   -1.3   -0.3    -7.1  -10.7    -0.9       5.8    5.4
STD ERROR          2.5    3.4     2.7    2.4      1.6     1.2     5.5    6.8    4.3    4.8    3.4    3.5    2.8     0.7    2.7    7.1     6.7    3.6     2.1       1.9   13.1
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EXPR: R318  NATL % 51.6    "atoms are rearranged into new molecules" most nearly describes what occurs during most chemical changes.

UNADJ EFFECT        7.0   -8.1   -3.9    4.2    3.8   -3.4   -7.0  -16.0   18.8   -0.0   -0.6    6.7   -8.9    1.4  -13.6    2.4  -21.6  -17.4    3.9   10.5   -7.3
STD ERROR           3.2    4.1    3.0    2.5    2.3    2.1    5.9    4.9    7.9    3.8    5.6    2.9    3.2    0.9    4.9    7.7    5.6    3.4    2.9    2.0    8.7
BAL   EFFECT        4.7   -3.8   -2.5    1.2    2.1   -1.9   -3.0  -11.1   14.7   -0.1   -1.7    5.0   -7.3    0.1   -6.0    8.3  -20.0  -13.2    4.6    8.0   -9.6
STD ERROR           2.2    3.2    2.3    2.0    1.6    1.4    5.9    5.2    5.1    3.3    4.0    2.7    3.0    0.8    5.3    5.3    5.2    3.3    2.5    1.6    6.8

EXPR: R319  NATL % 54.6    The longer a rock falls, the greater is its speed.

UNADJ EFFECT       -3.2    1.1    0.2    1.9   -2.4    2.1   -3.1   -0.0   -2.8   -3.3    2.9    0.6    0.7    0.7   -1.9   -5.8   11.4   -0.5    1.4   -3.6    4.2
STD ERROR           2.9    3.8    2.9    2.3    1.5    1.3    6.7    3.8    4.9    3.8    4.0    3.5    2.8    0.8    3.6    7.4    5.6    4.0    2.3    2.0   10.7
BAL   EFFECT       -4.1    0.6    0.2    3.1   -2.3    2.0   -5.8    1.5   -1.5   -2.4    3.2    0.2    0.0    1.1   -3.3   -7.4   11.9    0.2    1.7   -4.2    3.5
STD ERROR           3.0    3.6    2.6    2.3    1.5    1.3    5.8    5.1    5.1    3.9    3.7    2.9    2.8    0.9    4.5    6.9    5.6    4.0    2.3    1.9   10.6

EXPR: R320  NATL % 51.1    A boat travelling at 5 miles per hour down a river which flows at 5 miles per hour will take 60 minutes to go 10
                           miles downstream.

UNADJ EFFECT        3.3  -12.7    1.5    5.3   14.0  -13.0  -21.3  -17.3   16.9   -8.5    3.9    1.1    2.2    2.7  -23.2    1.1  -24.6  -13.5    0.6   11.3  -12.5
STD ERROR           3.6    3.7    2.8    3.1    1.9    1.6    7.8    6.5    5.8    4.1    4.4    3.8    3.2    0.9    4.0    9.6    6.6    3.5    2.4    1.6    9.0
BAL   EFFECT        1.2   -6.1    0.6    3.1   12.4  -11.8  -13.8  -10.8   12.3   -7.7    2.0   -0.5    3.4    1.1  -10.8    3.0  -19.4   -9.2    0.4    8.7  -20.8
STD ERROR           2.3    3.3    2.6    2.5    1.6    1.4    7.4    8.0    4.0    3.2    3.4    3.3    2.7    0.8    4.7    7.8    5.5    2.9    2.1    1.5    8.1

EXPR: R321  NATL % 49.4    A body covering of feathers distinguishes birds from all other animals.

UNADJ EFFECT       -2.4   -8.3    1.9    7.6    9.3   -7.2   -3.3  -10.4    2.9    1.6    1.4   -0.6    3.2    3.0  -15.7   -9.4  -14.8  -15.2    0.1    9.8  -14.3
STD ERROR           2.6    2.9    2.3    2.2    1.8    1.5    6.1    4.7    4.3    4.6    3.3    3.5    3.1    0.9    3.5    7.8    5.3    3.5    1.9    2.1   13.4
BAL   EFFECT       -2.9   -5.6    1.4    6.4    7.3   -6.4   -3.1   -3.4   -4.1    0.5    0.8   -1.2    5.5    2.0   -9.2   -9.2  -13.7  -12.5    0.3    8.2  -12.7
STD ERROR           2.3    2.4    2.0    2.0    1.7    1.4    5.1    4.5    3.9    4.2    2.7    2.8    2.7    0.9    3.7    8.8    5.2    3.4    1.8    2.0   12.6

EXPR: R322  NATL % 40.8    If a light eater has a tendency to be overweight, it is most likely due to highly efficient utilization of food by the
                           body.

UNADJ EFFECT       -2.6    3.1   -1.1    1.8    2.6   -2.2    5.6    6.8   -3.3    9.2   -4.5   -8.1    2.7   -1.4   10.2    2.9    6.1   -0.7    1.0   -1.4  -11.2
STD ERROR           3.6    3.1    2.8    2.8    1.7    1.6    6.0    5.8    5.8    3.1    3.5    3.8    3.3    0.7    5.3    6.5    6.9    3.3    2.3    1.9   10.1
BAL   EFFECT       -1.8    2.5   -1.1    1.5    2.5   -2.5    5.2    6.0   -3.5    8.6   -3.5   -8.1    2.9   -1.1    8.4    0.2    5.4   -3.3    1.4   -0.4  -12.7
STD ERROR           3.6    3.4    2.6    2.6    1.6    1.6    5.7    5.9    5.9    3.2    3.5    3.6    3.3    0.7    5.5    6.0    6.3    3.1    2.4    1.8   10.0

EXPR: R323  NATL % 47.6    The purpose of a fuse in an electrical circuit is to prevent possible damage to the circuit.

UNADJ EFFECT       -1.9   -2.2   -0.2    4.6   18.6  -15.3    3.3  -10.4    2.1   -6.8   -2.2    4.4    3.2    3.0  -14.9  -16.1   -8.1  -11.9    3.1    4.6   -7.1
STD ERROR           2.7    3.5    2.4    2.9    1.8    1.8    6.0    5.1    4.6    4.1    4.1    2.9    2.9    0.9    4.2    5.9    6.8    3.8    2.5    1.8   15.9
BAL   EFFECT       -1.9   -0.9   -0.1    3.4   17.5  -15.1    4.7   -4.7   -1.4   -5.7   -2.6    3.0    3.8    2.1   -7.9  -16.6   -8.2   -9.8    1.1    4.6   -1.1
STD ERROR           2.3    3.0    2.4    2.4    1.8    1.8    5.6    4.5    4.2    3.8    3.1    2.7    2.5    0.9    4.4    6.0    6.6    3.5    2.3    1.7   17.0

EXPR: R324  NATL % 45.4    C above middle C has a higher frequency and shorter wavelength than middle C.

UNADJ EFFECT        9.7  -12.6   -1.8    2.1    2.6   -2.3   -8.2   -5.9   18.0   -2.4   -1.7   -0.9   -0.2    3.1  -21.5   -7.8   -8.4  -11.3    0.1    7.1  -11.6
STD ERROR           3.9    3.2    2.9    2.8    2.1    2.0    7.0    5.8    8.7    3.7    4.7    4.1    3.9    0.7    3.8    6.7    7.9    3.7    2.7    2.2    6.2
BAL   EFFECT        8.5  -10.8   -1.3    1.2    0.8   -0.7   -4.4    1.0   13.4   -2.9   -4.4   -2.4    2.8    2.5  -16.7   -6.9   -4.4   -8.5    0.9    4.6  -15.9
STD ERROR           3.0    3.1    2.7    2.3    1.6    1.5    6.7    5.7    6.8    3.1    4.3    4.3    3.2    0.7    4.5    5.7    6.5    3.2    2.4    1.7    7.3
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: R325 NATL % 41.4 The function of the placenta in the pregnant human female is to carry nourishment to the baby.																					
UNADJ EFFECT	3.8	-5.5	-0.4	1.0	-4.6	4.2	-12.0	1.7	5.1	3.9	1.0	4.4	-5.9	0.8	-2.8	-6.8	-4.6	-10.7	-0.1	5.1	13.7
STD ERROR	3.0	3.3	3.1	2.6	1.5	1.5	3.9	6.0	4.5	3.4	4.7	5.1	2.8	0.7	4.7	6.1	6.7	3.1	2.1	1.6	12.2
BAL EFFECT	3.0	-4.4	0.4	-0.2	-4.5	4.4	-9.6	4.1	2.9	3.4	-0.5	2.9	-3.3	0.6	-2.3	-5.4	-3.6	-9.6	-0.4	4.5	16.6
STD ERROR	2.9	3.7	3.0	2.5	1.4	1.4	4.2	5.9	4.6	3.5	4.9	5.1	3.0	0.7	5.4	5.0	6.1	3.1	2.1	1.5	12.7
EXER: R326 NATL % 35.0 Adding table salt to water lowers its freezing point.																					
UNADJ EFFECT	9.1	-7.7	-3.6	1.9	10.8	-9.5	-2.0	-17.6	23.3	0.1	2.3	1.9	-2.4	4.1	-18.0	-13.1	-19.7	-12.2	0.2	10.7	-22.5
STD ERROR	4.0	2.6	2.4	2.7	1.4	1.3	5.8	3.0	7.9	4.5	3.8	3.4	2.8	0.8	3.0	4.3	3.6	3.2	2.3	1.8	4.8
BAL EFFECT	8.2	-4.1	-4.5	0.8	9.7	-8.6	5.2	-10.3	16.4	-1.6	-1.8	0.2	0.1	2.2	-8.7	-11.0	-18.4	-8.0	0.0	8.7	-23.6
STD ERROR	3.3	2.3	1.9	2.4	1.4	1.3	5.5	3.2	6.1	4.3	2.9	3.0	2.5	0.8	3.4	4.2	4.3	2.7	2.0	1.7	5.6
EXER: R327 NATL % 33.8 Sound from a radio or television receiver is carried to a person's ears by air molecules.																					
UNADJ EFFECT	7.9	-2.9	-1.3	-4.2	6.8	-5.1	-9.4	-5.6	2.7	3.6	3.7	-5.9	4.1	1.9	-8.6	-10.6	-13.9	4.2	0.3	0.5	-0.3
STD ERROR	3.7	3.1	2.8	2.6	2.0	1.7	4.6	4.0	5.7	4.3	3.9	3.4	3.8	0.8	3.9	5.4	3.5	4.4	1.8	1.9	9.1
BAL EFFECT	7.3	-1.1	-1.2	-5.1	6.6	-5.4	-8.3	-1.8	1.6	5.4	1.6	-8.1	5.6	1.8	-8.6	-8.9	-12.8	4.9	0.2	-0.3	4.3
STD ERROR	3.1	3.0	2.5	2.8	1.9	1.5	4.2	3.8	5.7	3.8	3.7	3.0	3.7	0.8	3.9	7.3	3.9	4.3	1.8	1.9	7.9
EXER: R328 NATL % 31.2 If the cells referred to were all in the same organism, the amount of DNA present would be identical in mature egg and sperm cells.																					
UNADJ EFFECT	-1.0	-7.1	0.2	7.5	-0.0	0.0	-6.8	-1.1	-2.6	8.9	1.4	4.7	-7.7	1.0	-7.2	-2.3	-21.4	-10.3	4.3	7.5	-18.0
STD ERROR	2.8	2.7	2.9	2.5	1.7	1.5	3.7	4.3	4.7	3.1	4.2	3.3	2.8	0.6	3.8	6.2	2.4	2.4	2.3	1.7	5.9
BAL EFFECT	-2.4	-2.7	0.6	4.7	-0.5	0.4	-4.4	3.4	-4.4	8.2	0.6	2.9	-6.4	0.6	-4.7	-0.2	-21.0	-8.7	3.7	7.1	-18.7
STD ERROR	2.6	2.3	2.6	2.6	1.5	1.4	3.0	4.4	4.6	2.9	3.3	3.2	2.8	0.6	4.0	5.7	2.4	2.6	2.3	1.6	6.5
EXER: R329 NATL % 30.3 If two light waves are travelling in a vacuum, the wave with the higher frequency has the shorter wavelength.																					
UNADJ EFFECT	3.1	-3.6	-1.6	1.6	6.1	-4.8	-3.6	-8.2	14.8	0.2	-1.7	-3.1	-1.7	2.8	-17.0	-9.9	-14.0	-14.1	-1.4	9.1	-10.4
STD ERROR	2.8	2.6	2.2	2.6	1.6	1.3	3.5	3.7	4.5	3.2	3.4	3.0	2.3	0.8	2.6	6.6	4.8	2.4	1.8	1.8	9.8
BAL EFFECT	0.9	1.1	-1.4	-0.3	5.2	-4.5	-1.4	0.2	9.7	1.3	-2.9	-4.4	-0.6	2.3	-13.2	-9.2	-12.8	-11.6	-1.3	7.8	-9.3
STD ERROR	2.5	2.3	2.2	2.7	1.5	1.2	3.0	3.0	4.4	3.2	3.1	3.2	2.3	0.8	2.8	7.2	5.1	2.4	1.7	1.4	7.9
EXER: R330 NATL % 29.0 The egg of the human female is released about 14 days after menstruation begins.																					
UNADJ EFFECT	3.2	-4.2	0.0	0.4	-4.6	4.1	2.8	-4.6	4.4	-2.6	1.5	6.2	-5.7	1.6	-6.2	-7.6	9.3	-9.5	-1.0	2.9	-15.7
STD ERROR	2.8	3.1	2.4	2.3	1.5	1.3	7.6	3.5	6.4	3.9	2.7	3.9	2.4	0.6	3.2	5.0	6.9	3.0	1.9	1.6	5.2
BAL EFFECT	2.1	-4.7	0.9	0.9	-5.2	4.6	3.4	-1.7	4.3	-1.4	-1.4	5.7	-4.8	1.1	-3.3	-8.1	9.2	-8.1	-0.7	2.2	-18.1
STD ERROR	2.6	3.4	2.2	2.2	1.4	1.2	6.7	4.1	6.0	3.7	2.9	3.6	2.5	0.8	4.0	5.0	6.5	3.1	1.8	1.6	5.5
EXER: R331 NATL % 23.2 For a given electric circuit, determine the resistance of a resistor.																					
UNADJ EFFECT	2.9	-5.1	3.5	-2.7	7.5	-6.6	-8.4	-7.1	-2.5	2.7	1.4	3.5	1.5	2.1	-8.9	-8.2	-13.4	-3.9	0.8	4.2	5.8
STD ERROR	2.1	2.0	2.4	1.8	1.2	0.9	3.9	3.2	3.4	3.0	3.1	2.8	2.9	0.5	2.3	3.2	3.2	2.4	1.4	1.2	6.8
BAL EFFECT	2.2	-3.4	3.2	-3.0	7.1	-6.2	-5.8	-4.0	-5.8	1.6	-0.8	3.5	2.8	1.2	-5.1	-4.3	-12.4	-2.5	0.4	3.6	9.2
STD ERROR	2.1	2.1	2.2	1.8	1.2	0.9	3.7	3.3	3.6	3.2	3.0	2.7	2.6	0.5	2.3	3.0	3.5	2.5	1.4	1.3	7.2

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EXPR: R332  NATL % 20.8   The age of certain rocks and their fossils is determined by measuring the amounts of uranium and lead the y contain.

UNADJ EFFECT     4.9  -4.5  -1.2  -0.4   5.6  -4.5   0.3  -5.5  11.1   2.8  -2.1  -1.6  -3.4   0.5  -0.6  -6.8  -8.4  -6.8  -2.8   6.2 -11.8
STD ERROR        2.3   2.3   1.9   2.3   1.3   1.1   4.3   3.8   3.7   4.0   2.5   2.4   2.4   0.5   2.8   4.1   3.3   2.5   1.7   1.4   5.1
BAL   EFFECT     3.6  -3.7   0.3  -1.5   5.3  -4.6   2.3  -4.9   8.4   2.3  -3.1  -0.8  -2.0  -0.1   4.8  -6.9  -7.0  -5.3  -2.8   5.4 -12.8
STD ERROR        2.1   2.1   2.0   2.3   1.3   1.1   4.0   4.1   3.5   4.2   2.6   2.7   2.2   0.6   3.0   5.0   4.2   2.2   1.5   1.2   3.5

EXPR: R333  NATL % 16.3   Experiments where subatomic particles are shot at metal foils show that atomic nuclei are more dense than  the rest
                          of the atom.

UNADJ EFFECT     5.9  -2.8  -1.1  -2.0   2.4  -2.1   1.1  -4.3   8.2  -1.4  -2.6  -0.2   2.3   1.1  -5.6  -1.8  -7.9  -5.6  -0.4   4.4   3.3
STD ERROR        2.7   2.0   2.1   1.7   1.1   0.9   4.8   2.3   8.1   2.6   2.6   2.2   2.3   0.5   2.1   3.8   3.5   1.9   1.5   1.4   6.0
BAL   EFFECT     6.5  -2.3  -1.2  -2.9   2.1  -1.9   5.1  -1.6   5.1  -1.8  -4.8  -1.1   3.6   0.6  -3.0  -0.6  -7.9  -5.3  -0.5   4.3   4.2
STD ERROR        2.5   2.0   1.9   1.8   1.1   1.0   4.9   2.3   7.1   2.3   2.7   2.1   2.2   0.4   2.1   3.5   3.2   1.8   1.4   1.2   5.4

EXPR: R334  NATL % 16.0   ATP is synthesized in the Mitochondria and then later broken down, resulting in a release of energy.

UNADJ EFFECT    -0.2  -1.6  -3.0   5.9   3.7  -2.9  -7.9   1.5   5.1  -0.8   1.4  -3.5   0.3   0.9  -3.5  -6.3  -5.7  -6.9  -0.2   4.0  -5.0
STD ERROR        1.6   2.0   1.5   1.9   1.3   1.1   2.2   3.6   2.9   2.4   2.3   2.1   2.2   0.5   2.8   3.3   2.9   1.9   1.3   1.0   6.7
BAL   EFFECT    -1.2   0.6  -3.2   5.4   3.2  -2.7  -6.6   4.7   2.7  -1.3   1.6  -4.3   1.0   0.8  -2.6  -6.6  -5.8  -6.1  -0.2   3.6  -3.1
STD ERROR        1.5   1.7   1.6   1.8   1.2   1.0   2.5   3.9   3.2   2.3   2.1   2.0   2.1   0.5   2.9   3.8   3.2   1.9   1.4   1.1   5.6

EXPR: R335  NATL %  7.2   Uranium-lead dating has been used to obtain accurate estimates of the age of the oldest known rock strata.

UNADJ EFFECT     4.4  -2.9  -1.1  -0.4   0.1  -0.0  -1.0   0.4   0.4   2.2   0.7  -0.8  -1.0   0.0  -1.1   2.2  -2.8  -2.5   0.2   1.7  -3.3
STD ERROR        1.2   0.8   1.0   1.1   0.6   0.6   2.5   1.4   2.5   1.6   1.3   1.3   1.0   0.3   1.2   2.6   1.6   1.0   0.9   0.8   1.8
BAL   EFFECT     4.6  -2.0  -1.4  -0.9  -0.1   0.1   0.8   1.3  -1.0   1.5  -0.2  -1.1  -0.3  -0.1  -0.3   2.2  -3.0  -2.4   0.3   1.7  -3.4
STD ERROR        1.2   0.8   0.9   1.2   0.6   0.6   2.4   1.5   2.3   1.6   1.3   1.2   0.9   0.3   1.2   2.5   1.5   1.1   0.9   0.8   1.9

EXPR: R336  NATL %  6.1   From a chemical equation, determine which elements have been oxidized.

UNADJ EFFECT     0.6   1.7  -1.7   0.1   2.8  -2.1  -2.0  -5.1  -0.0   2.1  -0.8   1.2   0.3   0.1  -0.8  -0.1  -3.4  -0.8   0.7   0.8  -4.9
STD ERROR        1.1   1.5   0.9   1.0   0.7   0.5   1.7   0.8   1.7   1.1   1.0   1.3   1.5   0.3   1.8   1.9   1.0   1.5   1.0   0.7   1.4
BAL   EFFECT     0.7   2.1  -1.7  -0.5   2.5  -2.0  -2.3  -3.9  -0.5   2.0  -1.0   0.9   0.8   0.0  -0.8   0.8  -3.3  -0.6   0.9   0.6  -4.5
STD ERROR        1.1   1.5   0.9   1.0   0.7   0.6   1.8   1.0   1.8   1.2   1.0   1.2   1.4   0.3   1.9   2.0   1.1   1.4   1.0   0.7   1.5

EXPR: R337  NATL %  2.6   Metal cans for holding foodstuffs are chiefly made of iron.

UNADJ EFFECT     0.2  -0.6   0.9  -0.8   1.7  -1.5  -0.6   0.1   2.2  -1.7   0.8   0.4  -0.8   0.1  -0.4  -0.6  -1.7  -0.7   0.6   0.4  -2.6
STD ERROR        0.7   1.0   0.6   0.6   0.4   0.4   1.2   1.0   1.9   0.6   0.7   0.7   1.0   0.2   0.8   1.8   0.6   1.2   0.9   0.6   0.4
BAL   EFFECT     0.0  -0.3   0.9  -0.8   1.6  -1.4  -0.4  -0.0   2.1  -1.9   0.7   0.5  -0.6  -0.1   0.4   0.0  -1.6  -0.4   0.5   0.3  -2.3
STD ERROR        0.7   1.0   0.6   0.6   0.4   0.3   1.3   1.0   1.8   0.6   0.8   0.8   0.9   0.2   1.0   1.9   0.7   1.2   0.8   0.5   0.8

EXPR: R338  NATL %  2.6   Using a compass, infer the direction of electron flow in a wire.

UNADJ EFFECT     0.3   0.8  -0.3  -0.6   1.5  -1.4   1.7   1.8  -0.1  -0.4  -0.1   0.6  -1.4  -0.0   0.4  -0.6  -2.1   0.2  -0.3   0.4   3.8
STD ERROR        0.9   1.1   0.6   0.7   0.5   0.5   2.9   2.7   1.1   0.7   0.8   1.2   0.6   0.2   1.9   1.2   0.6   1.2   0.6   0.6   3.4
BAL   EFFECT    -0.0   1.1  -0.2  -0.6   1.4  -1.3   2.1   1.7  -0.2   0.1   0.0   0.4  -1.5   0.1  -0.0  -0.8  -2.4   0.2  -0.3   0.5   4.1
STD ERROR        0.9   0.9   0.6   0.7   0.5   0.5   2.7   3.0   1.2   0.7   0.8   1.1   0.6   0.2   1.9   1.2   0.8   1.1   0.6   0.5   3.5
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OBJECTIVE: Possess the abilities and skills needed to engage in the processes of science.

EXER: R339 NATL % 86.3 Suggest two or three reasons why the engine of a car which has stopped running would not start again.

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-5.0	-1.1	2.2	3.8	5.2	-4.8	5.2	-8.9	6.6	-7.1	3.2	-0.3	-0.3	1.1	-10.1	3.4	-2.8	-2.0	0.8	1.5	-16.6
STD ERROR	2.6	2.4	2.0	1.6	1.1	1.0	3.2	3.7	1.7	3.9	2.1	3.2	2.2	0.6	3.9	4.3	5.2	2.3	1.3	1.3	18.8
BAL EFFECT	-6.4	0.6	2.3	3.6	5.3	-4.7	2.7	-6.5	5.9	-7.1	2.9	0.1	-0.3	0.8	-7.3	4.3	-3.3	-0.4	1.1	[illegible]	-15.3
STD ERROR	2.4	2.4	1.8	1.6	1.1	0.9	2.9	3.4	1.8	4.0	2.1	2.9	2.1	0.6	3.8	3.4	4.2	2.5	1.2	1.3	18.3

EXER: R340 NATL % 79.6 Given data from four weight experiments, determine which one provides strongest evidence that one object is heavier than another.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-0.7	-6.3	2.5	3.0	-0.4	0.3	-1.4	3.1	9.4	1.8	-3.7	0.9	-5.9	3.0	-24.8	1.3	-7.8	-7.5	1.5	4.2	-9.3
STD ERROR	3.9	2.9	2.1	2.7	1.6	1.6	4.9	3.8	3.0	3.2	3.5	3.1	3.4	0.8	5.3	4.2	5.1	3.8	1.8	1.7	10.2
BAL EFFECT	-1.4	-2.3	1.8	1.2	-1.0	1.0	-1.4	9.4	7.0	3.6	-5.8	0.0	-5.1	3.0	-25.2	1.1	-7.8	-4.6	1.3	3.1	-8.9
STD ERROR	3.4	2.7	2.1	1.9	1.5	1.5	5.2	3.8	2.7	2.9	3.3	2.8	2.7	0.9	5.4	4.0	5.2	3.5	1.6	1.5	11.0

EXER: R341 NATL % 74.9 Operate a beam balance.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	9.0	-10.5	-4.8	5.0	5.8	-6.1	-0.7	1.3	1.9	-4.7	7.5	-4.3	-2.4	2.7	-27.4	9.3	-3.8	-9.6	0.3	4.6	-2.3
STD ERROR	3.0	5.3	3.1	3.3	2.3	2.5	9.1	5.2	5.6	5.1	3.1	4.5	4.5	0.8	6.0	7.1	6.5	5.1	3.0	2.2	12.7
BAL EFFECT	7.8	-5.0	-5.8	3.3	4.8	-5.0	4.2	11.5	-3.5	-5.8	5.2	-5.7	-1.6	2.5	-26.0	10.6	-2.1	-7.3	-0.4	4.1	-9.8
STD ERROR	3.5	4.8	3.0	3.3	2.3	2.5	10.5	5.8	5.3	4.9	3.1	4.2	4.2	0.8	6.3	8.6	6.2	5.1	3.0	2.4	11.0

EXER: R342 NATL % 66.2 Given the natural balance between hawks, rabbits and grass in a meadow, a decrease in the number of rabbits also affects the number of hawks and amount of grass.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	3.7	-12.2	4.5	2.2	1.7	-1.7	-14.6	-11.7	15.5	5.3	9.3	-1.7	-3.5	4.7	-24.0	-6.3	-22.1	-16.8	0.8	13.2	-38.6
STD ERROR	3.3	3.2	2.5	3.1	1.5	1.4	5.4	5.6	4.1	4.6	2.4	1.0	4.2	1.0	3.8	7.6	7.5	3.7	2.2	1.6	8.0
BAL EFFECT	0.9	-6.6	3.2	1.3	0.8	-0.8	-10.9	-1.1	8.0	3.4	4.6	-2.4	-1.2	3.3	-15.9	-6.1	-18.9	-12.0	1.5	9.8	-36.5
STD ERROR	3.1	3.1	2.0	2.0	1.2	1.2	4.5	5.5	4.2	3.9	2.2	2.8	3.7	1.0	4.4	6.1	7.1	3.8	2.2	1.7	8.8

EXER: R343 NATL % 56.4 Differentiate fact from theory in a set of statements.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-0.8	-7.6	-0.6	7.9	2.4	-1.1	-6.6	-6.2	-2.7	12.4	-2.0	-0.6	2.7	4.0	-19.6	-18.1	-11.8	-14.0	-0.3	9.8	-19.5
STD ERROR	3.2	2.7	2.7	2.3	1.8	1.6	6.4	3.8	5.6	3.9	4.0	3.5	2.8	0.9	3.7	7.6	4.8	4.1	2.1	2.3	10.0
BAL EFFECT	-0.3	-3.5	-2.6	6.6	0.7	-0.6	-2.8	4.1	-11.0	12.5	-4.1	-3.1	5.3	3.8	-17.7	-19.5	-10.3	-11.9	-1.0	9.2	-19.3
STD ERROR	2.6	2.8	2.1	2.3	1.6	1.3	6.9	4.1	5.4	4.5	3.2	2.8	2.3	1.0	4.4	8.5	5.1	4.1	2.1	2.1	10.1

EXER: R344 NATL % 55.3 Time 10 swings of a pendulum.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-0.3	-5.4	3.0	0.3	6.2	-5.5	11.1	-10.3	11.2	-0.9	-13.9	6.2	0.7	4.3	-28.1	-40.7	-7.8	-0.7	0.1	2.6	-46.8
STD ERROR	3.6	4.8	3.6	4.3	2.6	2.3	9.9	7.5	7.4	4.2	4.1	5.1	6.0	0.8	6.0	7.9	6.8	5.5	1.8	2.0	13.2
BAL EFFECT	1.0	-4.4	2.1	-0.4	6.4	-5.6	10.5	3.2	8.1	-0.7	-14.7	4.5	-0.8	4.0	-25.1	-41.4	-6.3	-0.1	2.7	0.7	-40.7
STD ERROR	3.6	5.1	3.4	3.8	2.6	2.3	10.1	9.2	7.1	4.0	4.3	5.0	5.7	0.9	7.0	9.5	8.5	5.5	3.6	2.2	12.0

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EXER: R345  NATL % 39.8    Realize that atoms are rarely destroyed so that carbon atoms in a piece of bread could have been part of  a dinosaur's
                           body in ages past.

UNADJ EFFECT     5.5   0.6  -4.3  -1.4   4.9  -4.5  -3.5 -15.9  17.7  -4.1   4.9   4.6 -10.9    3.0 -21.4  -6.2   -7.3 -18.0   -0.1    9.5  -2.6
STD ERROR        4.2   5.8   2.8   3.1   2.3   2.3   4.7   4.2   9.2   3.6   5.1   3.2   3.2    0.8   4.1   6.3   12.0   3.4    2.8    2.4   5.3
BAL   EFFECT     3.5   5.1  -3.2  -4.7   3.6  -3.3  -0.3  -7.9  11.6  -1.5   3.9   2.3 -10.3    1.9 -16.5   0.4   -7.7 -13.6    0.9    7.1  -2.4
STD ERROR        2.8   5.8   2.3   2.8   1.7   1.6   5.2   4.1   6.9   3.1   5.5   3.2   3.3    0.7   4.7   4.0   11.0   2.9    2.3    2.0   6.1

EXER: R346  NATL % 31.1    Doubling the linear dimensions of a cube will increase the volume eight times.

UNADJ EFFECT     4.0  -9.3   1.9   2.4   3.0  -3.0  -7.8  -3.4  11.6   5.8   2.4  -2.9  -2.7    1.3  -7.3  -1.0  -11.0  -5.9   -1.9    6.8 -10.8
STD ERROR        3.3   2.8   2.0   2.5   1.5   1.5   4.3   3.5   5.3   3.8   3.1   3.7   3.4    0.6   3.1   5.5    5.1   2.9    2.0    1.3   7.4
BAL   EFFECT     2.8  -7.0   2.2   1.0   2.7  -2.7  -6.2  -1.6   8.0   4.1   0.1  -2.3  -0.2    0.5  -2.0  -1.8   -9.1  -3.9   -1.5    5.1  -9.7
STD ERROR        3.2   2.8   2.1   2.4   1.4   1.5   4.5   4.1   5.1   3.8   3.3   3.5   3.2    0.7   3.3   5.9    4.7   2.9    2.0    1.3   7.8

EXER: R347  NATL % 17.8    Explain why a flask planted with corn and stoppered with a one-hole stopper loses weight daily.

UNADJ EFFECT     5.3  -3.7  -0.5  -1.9   2.7  -2.0   0.4  -6.8   3.6   1.5   1.1   1.9  -2.1    1.7  -6.8  -9.8   -5.3  -3.4   -2.3    4.0  -3.4
STD ERROR        2.7   1.9   1.9   1.8   1.2   1.0   4.8   2.6   3.6   3.7   2.4   2.5   1.8    0.5   2.4   2.5    2.6   2.1    1.5    1.2   6.5
BAL   EFFECT     5.2  -3.1  -0.1  -2.8   1.9  -1.7   2.6  -3.8   1.7   1.6  -0.7   1.0  -1.0    1.2  -3.2  -9.6   -3.3  -2.2   -2.5    3.3  -3.0
STD ERROR        2.5   1.9   1.8   2.0   1.1   1.0   4.1   2.5   3.3   3.6   2.3   2.4   1.8    0.5   2.7   3.4    2.7   2.2    1.5    1.1   6.7

EXER: R348  NATL % 11.2    Determine the density of a wood block using a beam balance.

UNADJ EFFECT     7.3  -9.2  -1.8   1.9   7.0  -7.4  -8.6  -1.5   3.2   2.2   2.1   1.1  -2.3    1.4 -11.2  -2.6   -6.7  -5.4   -2.2    5.3  -6.6
STD ERROR        3.2   1.7   2.0   2.8   1.5   1.6   2.1   5.2   4.3   3.1   3.3   3.4   2.8    0.4   1.5   4.3    2.9   2.9    2.2    1.8   4.7
BAL   EFFECT     6.2  -6.8  -1.5   0.8   6.6  -6.9  -4.3   2.1  -0.2   1.3   0.9   0.8  -1.8    0.6  -6.4   2.8   -5.1  -2.9   -2.6    4.3  -6.9
STD ERROR        3.3   1.9   2.0   2.8   1.4   1.4   2.7   5.4   4.5   2.9   3.3   3.5   2.6    0.3   2.1   3.5    3.1   2.9    2.1    1.6   6.1

OBJECTIVE:    Understand the investigative nature of science.

EXER: R349  NATL % 91.3    Select the skill which is most useful to scientific research.

UNADJ EFFECT     1.0  -3.9   0.1   2.2  -0.8   0.7 -10.1  -3.5   3.6   1.9   4.1  -1.4   0.4    2.2 -15.6  -5.4   -7.6  -1.9   -0.3    3.2 -10.3
STD ERROR        1.8   1.8   1.6   1.3   1.2   1.1   5.8   2.5   2.9   2.1   1.3   2.1   1.9    0.5   3.8   3.3    6.0   2.2    1.4    1.2   7.9
BAL   EFFECT    -0.2  -1.5   0.4   1.1  -1.2   1.1  -9.1   1.5   2.7   2.2   2.9  -2.4   0.4    2.1 -14.8  -4.6   -6.7   0.1   -0.2    2.1 -11.6
STD ERROR        1.5   2.2   1.4   1.4   1.1   1.0   5.2   2.8   3.0   2.2   1.5   2.1   1.8    0.6   4.3   3.3    5.5   2.2    1.5    1.0   7.1

EXER: R350  NATL % 72.4    Recognize that repeated measures of the same object will usually yield similar results but not exactly th e same.

UNADJ EFFECT     2.4  -6.6   3.7  -1.0  -1.5   1.2   2.3  -8.4   2.3   0.3   0.0  -0.2   1.8    1.8  -2.4 -13.8   -9.0  -4.0   -0.1    4.3   2.6
STD ERROR        2.8   3.2   2.3   2.2   1.4   1.2   5.8   4.7   3.8   4.4   2.9   3.4   2.4    0.8   4.0   4.5    6.3   3.3    1.9    1.5   5.9
BAL   EFFECT     3.7  -8.9   3.7  -0.2  -1.8   1.6  10.3  -8.2  -2.1  -1.6  -2.3  -0.3   3.4    1.2   2.7 -16.5   -8.3  -3.2   -0.8    4.0   6.4
STD ERROR        2.5   3.9   2.2   2.2   1.3   1.2   4.6   4.9   4.5   4.1   2.4   2.9   2.5    1.0   4.7   4.9    5.6   3.3    1.8    1.6   6.1

EXER: R351  NATL % 27.5    Select the kinetic-molecular theory as a generalization of the gas laws of Boyle, Charles, and Graham.

UNADJ EFFECT     6.1  -1.6   0.4  -3.9   1.7  -0.9  -8.3  -7.4   8.2   2.5  -3.1   1.1   3.0    1.6  -5.5 -12.6   -5.1 -14.6    1.2    7.6 -15.3
STD ERROR        2.9   2.3   2.3   2.1   1.5   1.3   2.8   3.2   5.0   3.4   2.8   2.9   3.3    0.5   2.7   4.0    4.3   1.9    1.8    1.6   5.4
BAL   EFFECT     6.4  -2.3   0.8  -5.8   0.8  -0.6  -4.7  -6.0   4.9   3.1  -4.9  -0.3   5.7    0.6  -0.1  -8.9   -5.2 -14.6    1.0    7.5 -12.0
STD ERROR        2.8   2.4   2.2   2.1   1.4   1.2   3.3   3.5   4.6   3.1   2.7   2.6   3.4    0.5   2.4   5.6    4.6   2.0    1.7    1.5   5.9

OBJECTIVE:    Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.

EXER: R352  NATL % 79.4    Recognize that scientists want to know more about the world.

UNADJ EFFECT     3.8  -7.4   0.6   1.8  -0.8   0.3   1.9  -6.6   4.4   2.9   5.4  -0.7  -5.1    1.6  -6.7  -7.5    0.7 -13.4    1.1    4.8   4.6
STD ERROR        2.0   3.1   2.1   1.9   1.5   1.3   5.9   4.2   2.8   2.3   2.1   3.3   2.4    0.8   4.2   7.6    4.2   3.7    1.6    1.5   7.2
BAL   EFFECT     3.1  -5.1   0.6   0.4  -1.0   0.9   3.8  -3.4   0.9   2.9   3.9  -1.2  -3.4    1.0  -2.1  -8.8    3.2 -12.1    0.8    4.1   3.5
STD ERROR        1.8   2.8   1.7   2.0   1.4   1.2   5.0   4.3   2.9   2.5   2.2   3.4   2.2    0.7   4.5   6.3    4.1   3.4    1.6    1.5   7.5
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                         REGION                    SEX                  SIZE AND TYPE OF COMMUNITY                      COLOR                    HIGH SCHOOL EDUCATION

                                                                EXTREME  INNER EXTREME  INNER  URBAN MEDIUM  SMALL    NON
                 N.EAST S.EAST CENTRAL   WEST    MALE FEMALE   RURAL   CITY AFF SUB FRINGE FRINGE   CITY   CITY  BLACK  BLACK  OTHER   NONE   SOME GRADUATED   POST UNKNOWN

EXER: R353  NATL % 73.9    Recognize that United States scientists are not ahead of scientists in other countries in every field of research.

UNADJ EFFECT        6.1  -13.7    3.0    2.7     1.8   -1.1   -11.2  -11.5    7.9   -0.7    7.9   -0.6    0.0    4.0  -18.7   -7.9  -21.9   -8.7     3.6       8.0   -9.5
STD ERROR           2.1    3.1    2.4    2.5     1.5    1.3     6.8    5.5    4.2    4.0    2.0    3.8    3.1    0.9    3.5    5.4    6.9    3.4     1.8       1.5    6.9
BAL   EFFECT        4.8   -9.4    1.3    2.2     0.0   -0.0    -2.3   -6.4    2.8   -3.3    4.4   -1.4    1.5    2.6  -11.1   -7.3  -19.2   -4.9     3.1       6.0  -13.3
STD ERROR           2.1    3.5    2.1    2.5     1.4    1.3     6.5    4.8    4.6    4.1    2.1    3.2    2.8    0.8    3.5    5.3    6.6    3.2     1.7       1.6    5.8

EXER: R354  NATL % 15.8    Frequency of watching special television shows dealing with a scientific topic.

UNADJ EFFECT       -3.8   -0.2    1.2    2.8     7.9   -6.6     0.8   -3.9    5.1    1.2    0.6   -0.2   -2.4    1.5   -6.0   -7.9  -10.0   -6.3     0.1       4.6   -5.7
STD ERROR           1.6    1.6    1.4    1.5     0.9    0.7     2.5    1.8    2.7    2.0    2.6    1.8    1.2    0.4    2.1    2.7    1.9    1.4     1.9       1.2    6.0
BAL   EFFECT       -4.5    2.1    1.1    1.5     7.0   -6.1    -1.0   -0.7    2.6    1.1    1.4   -0.6   -2.1    1.0   -4.2   -5.7   -9.6   -4.6     0.3       3.6   -3.7
STD ERROR           1.5    1.6    1.4    1.7     0.9    0.7     2.4    2.1    2.9    1.9    2.2    1.9    1.2    0.5    2.5    3.0    2.3    1.5     1.9       1.3    4.9

OBJECTIVE:    Know the fundamental facts and principles of science.

EXER: U801  NATL % 96.3   (Text for this exercise was not released)

UNADJ EFFECT        0.6   -2.1    1.6   -1.0    -2.0    2.1    -4.1   -3.5    2.0   -0.4    0.6    1.1   -0.5    2.1   -5.1  -15.3   -1.1   -4.2     1.3       2.2  -17.4
STD ERROR           1.2    2.2    1.2    1.3     0.8    0.6     4.1    3.1    1.3    1.7    1.0    1.3    2.2    0.6    3.1    5.9    1.7    2.6     0.8       0.8    7.4
BAL   EFFECT        0.1   -1.8    1.6   -0.6    -2.6    2.1    -2.9   -1.7    0.4    0.3    0.7    0.3   -0.1    1.9   -3.8  -14.3    0.3   -3.9     0.9       1.9  -15.7
STD ERROR           1.0    1.8    1.1    1.2     0.8    0.7     1.3    2.7    1.5    1.5    1.0    1.1    1.9    0.6    2.6    5.3    2.0    2.3     0.8       0.7    5.8

EXER: U802  NATL % 93.8   (Text for this exercise was not released)

UNADJ EFFECT       -0.2   -0.9    1.3   -0.8    -1.2    1.1    -4.7   -5.4    3.9    2.1    3.3    0.6   -2.9    0.8   -4.0   -4.4   -5.9   -1.0     2.1       1.2  -17.4
STD ERROR           1.9    1.6    1.7    1.2     1.0    0.9     6.0    2.1    1.2    1.1    1.3    2.0    2.1    0.4    2.8    2.2    5.3    2.0     1.4       1.1    8.7
BAL   EFFECT       -1.1    0.6    1.6   -1.5    -1.4    1.2    -4.8   -3.5    4.5    2.5    3.1    0.1   -3.4    0.5   -3.1   -1.8   -5.9    0.5     2.3       0.5  -17.0
STD ERROR           1.8    1.8    1.2    1.1     1.0    0.9     5.2    2.4    1.6    1.2    1.4    1.9    1.9    0.4    2.9    2.7    4.9    2.1     1.5       1.1    8.6

EXER: U803  NATL % 89.7   (Text for this exercise was not released)

UNADJ EFFECT        1.9  -11.2    2.8    3.7     1.8   -1.7    -1.9   -5.0    5.5   -1.0    0.7    0.8   -2.1    1.8  -11.8   -6.5   -6.6   -4.8     3.4       1.8  -11.7
STD ERROR           2.1    4.0    1.7    1.8     1.4    1.3     4.2    3.7    2.7    2.6    3.9    2.3    2.6    0.5    3.8    5.9    8.7    2.8     1.4       1.5    6.8
BAL   EFFECT        1.2   -9.9    2.1    4.4     1.3   -1.3     2.1   -1.6    3.9   -2.0   -1.1    1.0   -1.4    1.3   -6.7   -8.4   -4.6   -2.4     3.1       0.6  -12.6
STD ERROR           2.1    4.1    1.8    1.8     1.1    1.1     4.2    4.3    2.4    2.9    3.8    2.3    2.4    0.6    4.6    5.8    7.8    2.4     1.4       1.4    6.9

EXER: U804  NATL % 84.8   (Text for this exercise was not released)

UNADJ EFFECT        4.0   -6.9    3.5   -2.1     0.7   -0.7    -7.0   -5.2    3.2    2.0    1.2    5.1   -2.3    3.7  -16.3   -9.1   -5.2   -6.5     0.3       4.4   -0.6
STD ERROR           2.0    2.7    2.4    2.3     1.2    1.1     7.1    4.0    3.1    2.5    2.6    2.1    2.3    0.8    3.8    5.2    4.3    2.6     1.4       1.4    4.3
BAL   EFFECT        3.0   -3.6    2.9   -3.5    -0.0    0.0    -1.6   -0.2   -0.6    2.5   -1.6    3.6   -1.8    3.1  -13.9   -7.3   -3.8   -4.1    -0.1       3.0    2.0
STD ERROR           1.9    2.7    2.2    2.3     1.1    1.0     5.9    4.1    2.6    2.3    2.5    2.0    2.1    0.8    3.6    5.1    4.1    2.4     1.4       1.3    4.5

EXER: U805  NATL % 82.9   (Text for this exercise was not released)

UNADJ EFFECT        4.1   -5.0   -2.3    2.8     0.0   -0.0   -13.2   -5.3    7.3    1.4    9.1   -1.1   -5.3    3.3  -20.2  -13.2   -4.6  -10.6     2.1       5.3  -30.6
STD ERROR           2.8    2.6    2.5    1.9     1.6    1.4     7.1    4.3    3.6    3.5    2.2    2.6    3.2    0.8    5.9    7.1    6.3    3.5     2.1       1.6    8.8
BAL   EFFECT        2.4   -1.7   -2.0    1.2    -0.5    0.4   -11.0    2.8    4.4    1.8    7.0   -3.3   -3.7    2.9  -17.9  -11.2   -3.4   -7.2     2.4       3.4  -33.0
STD ERROR           2.6    2.7    2.1    1.7     1.4    1.3     7.2    4.7    3.5    2.7    2.3    2.3    2.8    0.9    6.6    5.9    5.6    3.4     2.0       1.6    8.1
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EXER: U806  NATL % 78.0   (Text for this exercise was not released)

UNADJ EFFECT     -5.1  -0.2   2.4   3.0   3.6  -1.1   5.7 -18.4   6.7   4.0  -4.2  -0.8   2.3    3.3 -14.2 -13.8  -6.3 -13.1    2.8    6.2 -25.9
STD ERROR         3.6   2.9   2.9   2.7   1.9   1.6   4.8   6.3   4.3   2.8   4.8   4.1   3.1    1.1   3.7  10.2   5.2   4.2    1.9    2.1  11.0
BAL   EFFECT     -4.7   1.5   2.1   1.3   0.7  -0.6   6.8 -11.6   2.6   4.6  -4.1  -2.3   3.3    2.8 -11.9 -11.4  -6.4 -11.6    2.6    5.6 -24.3
STD ERROR         3.1   2.8   2.6   3.0   1.7   1.4   5.3   5.8   4.4   2.4   4.0   3.7   2.9    1.0   3.6  10.0   4.6   4.0    1.8    2.0  11.8

EXER: U807  NATL % 77.7   (Text for this exercise was not released)

UNADJ EFFECT      3.4  -0.3  -2.7  -0.0   4.6  -4.2  -2.3 -10.3  -2.3  -2.0   3.6   2.5  -0.2    0.0  -0.8   0.9 -11.7   1.7   -2.7    3.2   0.4
STD ERROR         2.0   2.7   1.9   2.2   1.6   1.2   4.7   5.4   3.7   3.6   2.2   2.0   2.2    0.9   3.3   9.2   5.3   3.4    1.8    1.3   9.9
BAL   EFFECT      3.1  -0.1  -2.4  -0.2   5.2  -4.2  -0.6  -8.8  -3.5  -3.2   2.8   1.8   1.7   -0.3   1.6   0.3 -10.8   2.3   -2.7    2.7   1.0
STD ERROR         1.9   3.3   2.1   2.4   1.5   1.2   4.8   4.8   3.9   3.7   2.3   2.1   2.4    0.9   3.5   9.2   5.1   3.8    1.8    1.4  10.2

EXER: U808  NATL % 75.6   (Text for this exercise was not released)

UNADJ EFFECT      2.9  -3.4  -2.5   3.4   1.4  -1.2 -12.3  -8.5   9.7   4.9   4.6   3.5  -7.3    2.3 -13.2  -8.8  -7.8  -8.8    1.9    4.3 -21.1
STD ERROR         3.3   2.9   2.8   2.3   1.4   1.3   6.0   6.5   4.5   3.4   2.5   2.6   4.1    0.6   4.3   8.0   5.6   4.4    2.0    1.8   9.4
BAL   EFFECT      1.1   0.5  -2.0   1.1   0.9  -0.8 -10.5  -2.1   7.7   5.3   2.5   2.7  -6.9    1.7 -11.3  -4.0  -6.3  -5.5    4.4    2.2 -22.7
STD ERROR         2.9   3.1   2.6   2.3   1.4   1.3   5.9   7.1   4.3   3.9   2.8   2.5   3.9    0.8   5.0   3.4   5.3   4.1    2.0    1.7   8.7

EXER: U809  NATL % 72.1   (Text for this exercise was not released)

UNADJ EFFECT      8.0 -12.5   5.9  -3.4  -1.2   1.2  -8.9 -10.6  16.8   2.0   0.7   6.9  -5.8    5.6 -26.1 -14.2 -11.2 -13.4    0.9    8.1  -8.8
STD ERROR         2.5   3.1   2.4   3.3   1.3   1.3   7.7   4.1   3.5   3.6   3.7   2.6   3.5    0.9   3.3   6.8   7.0   4.0    2.0    1.8  10.0
BAL   EFFECT      5.9  -8.8   4.8  -3.3  -2.3   2.3  -4.9   2.0  12.6   0.4  -4.9   4.6  -4.4    4.8 -21.3 -14.1  -9.2  -7.9    1.9    4.5  -5.4
STD ERROR         2.3   3.0   2.3   2.7   1.2   1.2   5.8   3.9   3.1   3.1   3.4   2.6   2.9    0.9   3.7   5.8   6.4   3.9    2.1    1.6  10.7

EXER: U810  NATL % 70.8   (Text for this exercise was not released)

UNADJ EFFECT      5.8  -8.3   1.0  -0.2   0.2  -0.2  -5.3 -19.7  15.2  -0.4   6.3   1.1  -5.2    4.4 -22.7 -23.1 -18.6 -10.2    3.8    8.0 -26.6
STD ERROR         2.8   2.9   2.8   2.4   1.7   1.6   5.4   5.8   4.3   3.1   2.8   3.5   3.0    1.1   5.4   6.5   5.7   3.8    2.0    1.7   8.3
BAL   EFFECT      4.0  -3.8   0.9  -2.2  -0.8   0.7  -1.8  -9.4  11.8   0.7   2.8  -1.3  -3.9    3.3 -17.0 -16.9 -16.7  -6.2    4.2    5.4 -26.4
STD ERROR         2.8   3.1   2.4   2.4   1.7   1.5   4.8   6.2   4.4   3.3   3.0   3.4   2.8    1.2   6.8   6.7   5.5   3.6    2.0    1.7   8.2

EXER: U811  NATL % 71.3   (Text for this exercise was not released)

UNADJ EFFECT      1.6  -8.4   2.2   3.5  10.3 -10.2  -1.7  -8.9   4.7  -3.5  -2.0   6.9   0.8    4.6 -23.8  -5.6 -10.7  -3.5    1.0    3.7 -12.1
STD ERROR         2.2   3.0   2.3   2.4   1.5   1.5   5.5   4.2   2.9   2.9   3.0   2.6   3.8    0.8   4.1   6.6   6.8   3.6    1.9    1.6   9.6
BAL   EFFECT      0.1  -7.1   2.0   4.0   9.3  -9.2  -1.1  -0.1  -0.1  -4.5  -5.1   6.1   2.3    3.9 -19.2  -7.0  -7.8  -0.3    0.9    1.7  -9.4
STD ERROR         2.3   3.1   2.3   2.6   1.5   1.5   4.1   4.2   3.0   2.4   3.0   2.8   3.3    0.8   4.2   5.8   6.5   3.2    1.7    1.7  11.0

EXER: U812  NATL % 68.9   (Text for this exercise was not released)

UNADJ EFFECT     -2.1  -7.7   4.2   3.5   1.6  -1.5 -13.5  -1.8   9.8   2.1   1.0   0.7  -0.5    2.8 -12.4  -9.8   0.0 -12.2    0.6    5.2 -13.5
STD ERROR         2.9   2.4   2.1   2.5   1.5   1.3   7.0   3.3   2.8   4.0   2.7   2.9   2.3    0.7   3.6   7.8   6.1   3.0    2.2    1.4  10.2
BAL   EFFECT     -4.2  -5.4   4.5   3.1   0.5  -0.4 -14.0   5.0   7.2   2.6  -3.0   0.6   0.5    2.6 -11.2 -10.0   2.5 -10.2    1.3    3.4 -16.9
STD ERROR         2.8   2.3   2.0   2.5   1.4   1.3   5.6   4.6   3.3   3.6   2.8   2.9   2.2    0.9   4.4   6.2   6.1   3.0    2.3    1.5   9.0
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: U813 NATL % 67.4 (Text for this exercise was not released)																					
UNADJ EFFECT	4.1	-8.6	2.3	0.5	8.2	-7.2	0.8	-23.5	19.7	-5.0	4.5	1.2	2.3	5.7	-27.8	-10.6	-10.6	-7.1	-0.3	5.9	-2.0
STD ERROR	2.8	3.1	3.0	2.7	1.4	1.2	7.9	4.4	3.3	3.3	3.8	3.6	2.8	1.1	3.7	9.9	7.3	4.1	2.4	1.4	11.0
BAL EFFECT	3.1	-5.5	1.3	0.1	7.1	-6.2	3.5	-13.3	14.1	-5.6	0.1	-0.1	3.7	4.0	-19.1	-9.1	-9.2	-1.9	-0.3	3.3	-0.9
STD ERROR	2.7	2.9	2.8	2.4	1.3	1.1	6.2	3.8	3.7	3.0	3.9	2.9	2.7	1.0	4.1	9.0	6.4	3.4	2.4	1.3	9.8
EXER: U814 NATL % 65.6 (Text for this exercise was not released)																					
UNADJ EFFECT	-4.7	-3.8	-1.2	9.7	3.9	-2.2	-1.0	-12.6	9.4	5.5	-1.1	5.4	-5.5	4.5	-21.3	-20.8	-17.8	-20.0	6.5	7.1	5.1
STD ERROR	3.8	3.1	3.6	2.7	1.9	1.7	6.7	6.0	5.8	3.6	4.5	3.4	3.1	1.1	4.6	8.7	5.7	4.0	2.1	2.0	9.5
BAL EFFECT	-5.2	2.4	-3.3	7.6	1.7	-1.4	0.2	-3.2	3.0	4.9	-1.5	2.1	-3.3	3.6	-15.3	-21.8	-15.6	-16.8	6.5	5.2	5.7
STD ERROR	3.0	2.9	2.9	2.6	1.8	1.4	5.7	5.4	5.0	3.8	3.4	2.9	3.0	1.1	4.8	8.1	5.6	4.0	2.0	1.9	9.5
EXER: U815 NATL % 63.7 (Text for this exercise was not released)																					
UNADJ EFFECT	1.6	-4.4	-1.5	4.1	7.1	-5.1	-7.8	-12.5	1.9	-1.2	4.2	5.3	-1.4	3.7	-19.5	-19.3	-17.8	-11.5	-0.2	7.7	-6.0
STD ERROR	2.9	3.1	2.6	2.1	1.9	1.7	5.9	4.7	5.4	3.3	4.6	2.3	2.8	1.0	3.2	9.4	5.9	4.0	2.1	2.0	13.9
BAL EFFECT	0.1	-0.7	-1.5	2.6	5.6	-4.9	-4.7	-3.6	-3.4	-0.6	2.9	3.5	-0.1	2.9	-12.8	-18.5	-15.5	-9.9	-1.3	7.1	-2.2
STD ERROR	2.5	3.1	2.7	2.4	1.8	1.5	5.5	4.0	5.6	2.5	4.6	2.6	2.7	1.0	2.9	11.3	5.9	3.6	1.9	1.9	12.7
EXER: U816 NATL % 60.1 (Text for this exercise was not released)																					
UNADJ EFFECT	1.4	3.2	-1.0	-3.1	9.4	-8.5	9.5	-23.0	4.6	-6.5	-0.7	4.3	0.9	3.6	-26.0	-8.3	-5.1	-6.1	-2.2	5.7	-16.9
STD ERROR	3.2	3.4	2.5	2.5	2.0	1.9	4.7	6.0	5.9	3.1	4.3	2.9	2.4	0.9	4.6	5.9	6.8	4.4	2.3	1.5	9.5
BAL EFFECT	0.6	7.5	-2.4	-4.0	8.4	-8.0	11.1	-15.1	2.3	-2.7	-1.5	2.2	-0.0	3.0	-23.8	-3.0	-5.1	-3.1	-2.0	4.3	-15.2
STD ERROR	2.6	3.5	2.4	2.6	1.9	1.8	4.6	6.6	4.5	2.8	4.5	2.9	2.3	0.8	4.4	5.7	6.3	4.2	2.2	1.5	8.6
EXER: U817 NATL % 61.9 (Text for this exercise was not released)																					
UNADJ EFFECT	4.8	-10.1	4.5	-3.0	1.3	-0.9	-8.2	-13.6	6.0	0.9	3.4	4.8	-5.4	1.7	-7.8	-13.7	-18.6	-12.6	2.5	8.8	-23.0
STD ERROR	2.7	3.3	2.8	2.4	2.0	1.9	7.5	10.4	5.7	3.3	4.1	3.1	3.1	0.8	5.8	5.5	7.1	3.3	2.4	2.0	8.2
BAL EFFECT	3.9	-7.8	4.6	-4.1	0.1	-0.1	-1.6	-10.1	2.9	0.6	2.6	3.1	-4.0	0.4	-0.2	-7.3	-16.9	-10.9	1.7	8.1	-19.5
STD ERROR	2.7	3.7	2.8	2.7	1.9	1.8	6.5	10.9	6.3	3.3	3.4	2.9	2.9	0.8	6.2	6.0	7.1	3.3	2.4	1.9	7.5
EXER: U818 NATL % 59.6 (Text for this exercise was not released)																					
UNADJ EFFECT	3.6	-2.0	-4.2	3.5	4.1	-3.4	-3.4	-9.7	5.2	1.8	0.5	7.3	-3.7	2.5	-13.0	-2.5	-0.2	-6.4	-1.4	4.5	-3.1
STD ERROR	3.3	4.2	3.3	3.2	1.8	1.6	5.7	5.7	4.3	4.8	4.5	4.1	3.8	0.9	4.3	4.8	6.8	3.7	2.0	1.7	6.4
BAL EFFECT	2.6	0.9	-4.4	2.2	3.4	-3.1	-0.4	-5.0	2.4	1.2	-0.2	5.5	-3.4	1.8	-11.1	-1.2	0.6	-3.7	-1.3	3.1	-7.0
STD ERROR	3.2	4.1	3.1	3.2	1.8	1.6	6.6	5.8	4.8	4.9	4.3	4.0	3.5	0.8	3.8	5.3	6.8	3.7	1.9	1.7	6.0
EXER: U819 NATL % 57.3 (Text for this exercise was not released)																					
UNADJ EFFECT	2.2	-0.5	-3.0	2.0	6.8	-6.8	-7.3	-7.6	7.4	-2.0	1.6	8.1	-3.2	4.0	-19.0	-8.9	-12.1	-9.8	1.5	6.1	1.6
STD ERROR	2.2	3.2	2.0	2.4	1.7	1.7	4.9	4.8	4.9	4.0	2.6	2.4	3.6	0.9	4.5	6.4	7.0	3.6	1.9	1.6	8.6
BAL EFFECT	0.0	3.2	-3.5	1.3	6.0	-6.0	-3.8	2.0	2.6	-1.5	-0.9	5.7	-3.5	3.4	-16.0	-8.0	-10.6	-7.3	1.7	4.5	2.6
STD ERROR	2.1	2.8	1.8	2.1	1.6	1.6	4.4	5.0	4.6	3.5	2.6	2.4	3.2	1.0	5.3	6.4	6.7	3.3	2.0	1.5	7.5

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EXER: U820  NATL % 56.2   (Text for this exercise was not released)

UNADJ EFFECT      5.6  -14.0   -1.5    8.3    2.3   -2.7  -16.2  -15.9    3.5    7.0    5.8    3.0   -2.0      4.7  -33.1   -6.8  -27.9  -13.2     -0.6     10.3   -9.9
STD ERROR         2.8    3.2    2.5    3.2    1.6    1.4    6.1    6.1    4.3    3.7    3.7    4.0    2.7      1.0    3.6    9.8    4.0    4.5      1.9      2.0   15.3
BAL   EFFECT      3.4   -6.9   -2.5    5.7    2.3   -2.0   -9.0   -1.0   -4.9    6.8    1.9    0.6    0.7      3.9  -27.0   -7.1  -23.3  -10.4     -1.4      8.9   -7.8
STD ERROR         2.4    3.1    2.2    2.9    1.4    1.2    4.5    4.9    4.3    3.0    3.8    3.7    2.2      0.9    4.3    7.4    4.2    4.2      1.9      1.9   15.2

EXER: U821  NATL % 54.5   (Text for this exercise was not released)

UNADJ EFFECT      8.1   -1.9   -1.8   -4.9    9.2   -8.3    9.3  -18.1    3.6   -5.6    0.4    4.7   -1.5      2.2   -9.4  -14.8  -17.3   -1.7     -0.1      5.7  -10.9
STD ERROR         2.9    3.8    2.9    2.7    1.8    1.8    6.6    6.4    7.4    5.2    4.1    2.6    4.2      0.7    5.2    8.5    6.2    3.4      2.1      1.8   11.4
BAL   EFFECT      6.7   -0.4   -1.9   -4.5    8.7   -7.9   11.4  -13.8   -0.2   -4.1   -2.0    3.6    0.5      1.2   -4.1  -10.3  -15.9   -1.2     -0.5      5.3   -9.5
STD ERROR         2.6    3.0    2.9    2.9    1.8    1.7    7.0    5.5    5.3    5.8    3.4    2.6    4.2      0.7    4.6    7.1    4.8    3.5      2.0      1.6   11.5

EXER: U822  NATL % 54.1   (Text for this exercise was not released)

UNADJ EFFECT      6.4  -11.0   -0.1    2.3    6.2   -6.1  -16.7  -17.5   18.9   -0.7    1.5   -1.6   -0.2      1.2  -12.4    5.2  -11.7  -14.2      0.1      8.6   -4.6
STD ERROR         3.2    3.5    2.8    3.3    1.8    1.6    7.7    6.5    3.7    3.9    4.5    3.6    3.8      0.8    5.7    8.2    8.5    3.9      2.6      2.0    9.3
BAL   EFFECT      5.6   -6.4    0.1   -1.1    5.4   -5.1  -11.7  -14.5   14.8   -1.1    0.5   -2.7    1.9     -0.2   -2.6    9.0   -8.2  -11.5      0.3      6.9  -10.9
STD ERROR         3.0    3.5    2.8    2.9    1.6    1.5    7.3    7.4    4.1    3.8    4.0    3.3    3.5      0.8    5.8    7.7    7.0    3.9      2.5      2.0    9.2

EXER: U823  NATL % 46.6   (Text for this exercise was not released)

UNADJ EFFECT      9.4   -8.5   -1.7   -0.3    2.3   -2.0   -9.9  -18.3   20.2   -1.5    0.6    5.6   -4.8      2.8  -19.3   -4.3  -15.5  -14.6      1.6     10.2  -16.0
STD ERROR         2.9    3.2    3.5    2.9    1.9    1.7    4.7    5.7    6.4    3.5    4.3    4.1    3.6      0.8    3.8    5.5    5.8    3.5      2.4      1.8    9.4
BAL   EFFECT      8.2   -4.8   -0.8   -3.7    1.3   -1.2   -6.4  -11.0   15.6   -0.8   -2.4    4.0   -2.6      1.3  -12.1    4.7  -13.6  -11.7      2.2      7.9  -15.8
STD ERROR         2.5    2.9    3.3    2.4    1.7    1.5    5.2    5.6    6.0    3.0    3.7    3.9    4.1      0.8    4.7    5.6    5.1    3.4      2.2      1.6    9.6

EXER: U824  NATL % 45.5   (Text for this exercise was not released)

UNADJ EFFECT      2.6   -1.2   -0.3   -1.7   -0.6    0.8    3.5  -16.4   14.5    2.4    5.2   -6.9   -5.3      2.6  -16.0  -10.3    5.7  -14.3     -2.3      6.7  -24.1
STD ERROR         3.4    3.4    3.2    2.6    2.0    1.9    7.3    6.2    5.5    3.9    5.4    4.4    2.8      0.8    3.9    5.5    6.7    2.7      2.4      1.6    8.4
BAL   EFFECT      2.8    1.3   -0.9   -3.4   -1.4    1.3    4.5  -10.2   10.4    3.6    4.1   -9.2   -3.0      2.0  -13.1   -6.4    4.8  -11.9     -2.1      5.7  -20.6
STD ERROR         3.0    3.1    3.1    2.7    1.7    1.7    7.1    6.3    5.1    3.5    5.0    4.6    2.7      0.8    4.2    7.0    6.0    2.6      2.4      1.4    8.3

EXER: U825  NATL % 43.8   (Text for this exercise was not released)

UNADJ EFFECT      1.5   -4.4   -0.8    3.6    7.2   -7.2  -11.9  -10.4   14.1    4.5    2.6    3.1   -2.9      3.8  -21.6   -0.7   -4.1   -9.8     -1.7      6.8  -16.1
STD ERROR         3.6    2.9    2.4    2.7    1.6    1.6    4.1    3.3    4.7    4.1    3.7    2.8    3.4      0.7    2.4    6.1    7.4    2.9      2.1      1.8    7.4
BAL   EFFECT     -1.6   -0.1   -0.5    2.2    6.6   -6.6  -10.7   -1.1    8.9    4.4    0.7    1.6   -2.7      3.0  -16.9   -0.6   -1.2   -6.0     -1.1      4.0  -13.4
STD ERROR         3.4    2.9    2.3    2.4    1.6    1.5    4.1    3.3    5.1    4.0    3.7    2.9    3.0      0.8    3.1    5.4    7.3    2.8      2.1      1.8    8.7

EXER: U826  NATL % 43.3   (Text for this exercise was not released)

UNADJ EFFECT      3.6  -13.5    5.3    2.5   -7.7    7.3  -16.8   -4.9    8.7    9.1    6.2    1.4   -5.8      2.5  -11.8   -4.4   -6.4   -6.9      0.1      6.0  -13.9
STD ERROR         2.7    3.2    2.7    2.7    1.7    1.6    3.9    4.9    5.8    4.8    2.8    4.1    2.8      0.9    3.1    7.1    6.3    3.1      2.0      1.8    8.3
BAL   EFFECT      1.1   -9.6    5.6    0.7   -8.8    8.0  -12.9   -3.7    7.3    7.7    3.9    1.9   -4.9      1.3   -7.5   -0.3   -3.8   -3.5      0.3      3.6  -17.0
STD ERROR         2.7    3.6    2.4    2.7    1.6    1.5    4.8    4.0    5.8    4.0    2.9    4.0    2.8      0.9    2.9    6.8    5.2    2.9      1.9      1.8    8.3
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: U827 NATL % 42.8 (Text for this exercise was not released)																					
UNADJ EFFECT	7.2	-6.9	-2.6	0.8	4.8	-3.4	-6.8	-14.6	8.5	3.6	1.8	-1.7	0.2	3.0	-16.5	-12.9	-19.1	-7.0	-1.8	7.5	-15.8
STD ERROR	3.4	3.7	3.4	2.8	1.5	1.4	4.2	4.2	5.2	3.3	5.1	3.6	4.5	0.8	3.4	7.7	3.9	4.2	1.9	1.9	9.7
BAL EFFECT	5.5	-3.7	-2.2	-0.5	3.7	-3.2	-2.3	-6.6	3.3	3.8	-0.7	-2.8	2.0	2.2	-10.8	-12.5	-16.1	-5.0	-2.1	6.3	-14.0
STD ERROR	3.1	3.7	3.4	2.8	1.5	1.3	5.1	4.3	5.1	3.3	5.3	3.3	4.4	0.9	4.0	8.7	4.1	4.0	1.9	1.9	9.3
EXER: U828 NATL % 39.4 (Text for this exercise was not released)																					
UNADJ EFFECT	2.6	-8.9	8.5	-6.0	7.8	-6.1	1.6	-11.3	2.1	0.8	-0.8	1.3	3.3	4.2	-19.4	-18.4	-19.8	-18.3	1.3	9.6	17.5
STD ERROR	2.7	2.5	1.9	2.3	1.8	1.5	5.9	3.3	4.3	4.1	3.2	3.5	2.9	0.8	2.4	5.3	4.5	2.4	2.1	1.9	14.5
BAL EFFECT	3.1	-5.8	7.3	-7.8	6.1	-5.3	3.8	-2.6	-3.1	1.5	-3.9	-1.0	5.7	3.2	-12.5	-17.7	-17.7	-16.3	0.3	9.0	19.3
STD ERROR	2.6	2.5	1.9	2.9	1.5	1.2	4.2	3.6	4.4	4.2	2.4	3.1	2.7	0.8	2.8	6.3	4.5	2.5	2.1	1.7	13.8
EXER: U829 NATL % 36.0 (Text for this exercise was not released)																					
UNADJ EFFECT	6.4	-6.2	0.4	-2.5	3.3	-2.9	0.6	-8.5	4.6	-3.2	-2.4	8.9	-5.2	2.0	-14.4	-5.3	-16.8	-14.5	-0.2	10.5	-15.5
STD ERROR	3.1	3.2	2.8	2.5	1.4	1.3	8.5	7.1	4.3	3.8	4.5	3.6	3.1	0.8	4.5	8.6	4.1	2.6	2.3	1.8	7.5
BAL EFFECT	5.8	-3.2	0.5	-4.6	1.9	-1.8	7.1	-2.2	0.2	-2.6	-3.3	6.6	-3.7	1.1	-9.9	2.1	-16.1	-13.1	-0.3	9.8	-14.5
STD ERROR	3.1	2.8	2.6	2.7	1.2	1.1	8.1	6.4	4.4	3.5	4.0	3.1	3.2	0.7	4.5	5.0	3.8	2.6	2.3	1.6	7.9
EXER: U830 NATL % 31.3 (Text for this exercise was not released)																					
UNADJ EFFECT	0.0	-5.0	-2.7	8.3	6.4	-5.8	-9.3	-10.8	14.8	-1.4	9.8	-1.2	-6.8	3.6	-20.7	-13.2	-6.2	-13.2	1.8	6.5	-0.5
STD ERROR	2.3	2.8	2.2	2.4	1.8	1.6	2.8	4.0	5.9	3.1	3.6	3.0	2.3	0.6	2.8	3.5	5.1	2.9	2.0	1.7	10.9
BAL EFFECT	-1.9	0.1	-2.5	5.6	5.5	-5.0	-6.5	-1.9	10.3	-1.0	6.4	-1.5	-5.7	2.8	-16.0	-10.6	-3.9	-8.6	2.3	3.6	-4.2
STD ERROR	2.3	2.9	2.3	2.4	1.8	1.6	3.5	4.8	5.8	2.6	4.2	3.0	2.5	0.6	2.9	5.1	5.2	2.9	2.0	1.6	10.1
EXER: U831 NATL % 30.0 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.1	-7.2	2.9	2.7	5.0	-4.4	0.5	-0.6	5.8	1.3	1.4	-2.4	-1.8	1.0	-6.1	1.6	-9.3	-8.4	-0.7	6.4	-4.7
STD ERROR	2.5	1.9	1.8	1.9	1.4	1.2	5.8	3.8	7.4	3.2	2.6	2.5	2.9	0.5	2.3	5.3	4.6	3.0	1.9	1.5	6.3
BAL EFFECT	-0.2	-4.5	2.2	1.4	4.4	-3.9	2.6	1.8	1.9	0.1	-1.0	-1.8	-0.1	0.4	-3.2	2.1	-8.3	-7.5	-0.9	6.0	-5.2
STD ERROR	2.4	2.4	1.8	2.0	1.4	1.2	5.4	4.0	7.4	3.1	2.7	2.5	2.7	0.5	2.5	5.0	4.7	3.1	1.9	1.6	7.4
EXER: U832 NATL % 27.9 (Text for this exercise was not released)																					
UNADJ EFFECT	0.8	-3.1	-2.5	5.3	14.1	-11.7	-6.0	-13.2	8.4	-2.2	-2.2	5.0	-0.0	2.7	-18.1	-6.4	1.9	-11.7	-0.4	5.1	-6.5
STD ERROR	2.6	2.3	1.9	2.0	1.6	1.3	4.5	3.1	4.2	3.0	3.0	3.3	2.1	0.6	2.5	5.4	6.1	2.2	2.1	1.5	7.7
BAL EFFECT	-0.6	-0.3	-1.5	3.1	13.1	-11.4	-4.7	-7.2	4.7	-1.0	-2.6	3.8	0.3	1.9	-11.1	-6.6	3.2	-8.9	-1.3	4.1	-8.1
STD ERROR	2.3	2.2	1.9	1.8	1.6	1.2	4.1	3.0	3.6	2.6	2.7	3.0	2.1	0.5	2.4	5.2	5.4	2.3	2.0	1.5	6.2
EXER: U833 NATL % 27.8 (Text for this exercise was not released)																					
UNADJ EFFECT	-2.1	-5.1	3.4	2.2	2.0	-1.8	-1.4	-12.1	5.7	-0.0	-0.9	7.1	-4.3	1.0	-5.7	-4.7	3.4	-11.1	-0.6	4.7	-18.9
STD ERROR	2.5	2.3	2.6	2.2	1.6	1.5	5.7	4.1	4.8	2.8	3.1	3.6	2.3	0.5	4.4	4.1	7.2	2.6	2.3	1.7	5.5
BAL EFFECT	-2.3	-5.6	4.2	1.8	2.0	-2.0	-2.3	-10.4	3.4	-0.3	-1.8	7.1	-1.8	0.3	-0.9	-2.4	4.2	-8.5	-1.1	3.8	-18.4
STD ERROR	2.5	2.6	2.5	1.9	1.5	1.4	4.9	4.4	4.7	2.7	3.1	3.4	2.1	0.6	4.6	5.1	6.6	2.5	2.3	1.6	6.2

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EXER: 0834  NATL % 26.6   (Text for this exercise was not released)

UNADJ EFFECT        1.6   -4.9    1.8    0.7    2.7   -2.7   -3.6   -3.1    1.7    6.0    3.6   -3.3   -1.1    0.6   -4.7    2.8   -6.1   -2.3    0.0    2.5   -2.3
STD ERROR           2.1    2.4    2.3    1.8    1.3    1.2    3.7    2.8    3.4    3.3    3.1    2.3    2.4    0.6    2.7    4.7    4.5    3.2    1.9    1.4   11.3
BAL   EFFECT        0.7   -3.1    1.8   -0.0    2.6   -2.6   -3.5   -2.3    0.2    5.4    2.7   -2.8   -0.1    0.1   -2.0    3.3   -4.8   -1.3    0.1    1.7   -1.1
STD ERROR           2.1    2.4    2.2    1.8    1.3    1.2    3.5    3.5    3.6    3.4    3.1    2.2    2.3    0.7    3.4    4.5    4.3    3.2    2.0    1.5   10.3

EXER: 0835  NATL % 26.1   (Text for this exercise was not released)

UNADJ EFFECT        3.6    1.0   -3.1   -0.7    3.1   -2.8   -4.5    9.5    3.2    3.3   -3.3   -0.5   -1.4   -1.4    8.9    3.6    2.8    0.2   -1.2   -0.5   14.2
STD ERROR           3.0    2.4    2.3    2.4    1.4    1.3    2.8    5.8    5.1    3.1    2.8    2.8    2.9    0.5    3.7    2.7    5.4    3.7    1.8    1.5    8.8
BAL   EFFECT        3.4    0.4   -2.2   -1.2    3.3   -2.9   -4.7    6.4    2.7    3.1   -2.8   -0.2   -0.6   -1.2    7.4    3.5    3.0   -1.0   -1.0   -0.1   12.9
STD ERROR           2.7    2.5    2.3    2.4    1.3    1.2    3.1    6.5    5.6    3.2    2.8    2.8    2.9    0.7    4.4    3.5    5.2    3.4    1.7    1.6    8.9

EXER: 0836  NATL % 23.9   (Text for this exercise was not released)

UNADJ EFFECT        4.1   -7.1    0.8    0.6    2.8   -1.7   -4.4   -9.5    8.0   -0.4   -3.3    1.6    1.3    2.6  -15.9   -3.2  -14.0   -4.2   -1.5    6.2  -16.7
STD ERROR           2.2    2.0    2.0    2.5    1.4    1.1    6.1    3.1    5.3    3.4    2.7    2.4    2.4    0.5    1.9    5.3    2.6    2.7    1.6    1.4    4.5
BAL   EFFECT        4.4   -5.2    0.2   -0.7    1.6   -1.3    0.1   -3.8    3.7   -0.5   -6.0    0.2    4.6    2.0  -12.3   -2.1  -12.6  .-2.7   -1.5    5.4  -16.3
STD ERROR           1.9    2.5    1.8    2.4    1.2    1.0    5.8    3.2    4.9    2.9    2.8    2.2    2.3    0.6    2.2    5.3    2.8    2.7    1.5    1.4    5.0

EXER: 0837  NATL % 23.5   (Text for this exercise was not released)

UNADJ EFFECT       -1.1    3.8   -0.4   -1.5    3.9   -3.0   -2.0    3.9   -2.4   -5.5   -2.5    2.5    3.1    1.9  -10.0   -9.9    0.3   -5.1    1.8    1.8  -15.2
STD ERROR           2.6    2.4    2.1    2.1    1.3    1.1    5.0    3.3    3.8    2.4    2.9    2.7    2.5    0.5    2.5    3.9    4.4    2.6    1.8    1.3    4.4
BAL   EFFECT       -0.6    4.8   -1.4   -1.9    3.2   -2.8   -2.3    9.8   -4.0   -3.4   -2.8    0.9    2.5    2.2  -12.9   -8.8   -1.0   -4.8    0.8    2.3  -11.3
STD ERROR           2.2    2.7    1.9    2.2    1.3    1.1    5.2    3.7    3.6    2.2    2.8    2.6    2.5    0.5    2.6    3.7    4.0    2.5    1.8    1.3    4.9

EXER: 0838  NATL % 22.3   (Text for this exercise was not released)

UNADJ EFFECT        3.1    3.0   -5.1    0.7    7.5   -6.8   -6.2   -9.5   18.3   -0.6   -1.9   -1.4    0.5    1.5   -7.9   -6.8   -5.2   -2.9   -2.9    4.6   -3.6
STD ERROR           3.7    3.5    2.3    2.5    1.5    1.5    3.1    3.6    8.1    2.8    2.8    2.9    3.3    0.5    3.4    2.7    4.9    3.6    2.0    1.9   10.4
BAL   EFFECT        1.8    4.6   -3.9   -0.8    7.2   -6.5   -5.3   -5.6   15.1    0.5   -3.2   -1.6    1.0    1.1   -6.1   -3.9   -4.3   -0.9   -1.9    2.9   -4.7
STD ERROR           2.8    3.3    2.1    2.4    1.3    1.2    3.4    4.5    6.6    2.6    2.7    2.8    3.3    0.5    3.9    2.9    3.9    3.3    1.6    1.5    9.9

EXER: 0839  NATL % 20.9   (Text for this exercise was not released)

UNADJ EFFECT       -0.5   -3.4    1.8    1.2    4.2   -2.9  -11.8    6.6   -1.2   -1.7    0.9   -0.8    2.5    0.8   -2.2   -5.2   -9.2    3.9    1.3    0.1  -14.4
STD ERROR           2.3    2.3    2.4    2.4    1.6    1.3    3.6    4.7    3.9    3.4    2.7    2.7    2.8    0.6    3.2    5.2    3.4    3.8    1.6    1.6    3.3
BAL   EFFECT       -0.5   -3.0    1.4    1.5    4.0   -3.2   -9.8    7.4   -2.3   -2.5    0.6   -1.1    3.4    0.7   -1.3   -5.3   -8.7    4.0    1.0    0.2  -14.1
STD ERROR           2.1    2.2    2.3    2.3    1.5    1.2    4.2    4.5    3.6    3.5    2.9    2.7    2.7    0.7    3.7    5.5    3.7    3.7    1.5    1.5    3.9

EXER: 0840  NATL % 20.5   (Text for this exercise was not released)

UNADJ EFFECT       -3.4    6.4   -3.3    2.5   -0.1    0.4    5.4   -3.3   -2.1   -4.2   -2.2    1.4    4.2    0.5   -1.8   -3.1   -5.0   -0.8   -0.2    1.9   -7.2
STD ERROR           1.7    3.3    1.6    1.7    1.2    1.0    3.9    2.8    3.1    2.9    1.8    1.9    3.8    0.5    2.3    5.2    3.4    3.2    2.0    1.3    4.6
BAL   EFFECT       -2.9    6.1   -3.7    2.7   -0.7    0.6    5.4   -0.9   -3.6   -3.5   -1.6    0.9    3.3    0.6   -2.9   -3.0   -6.3   -1.8    0.3    2.7   -6.9
STD ERROR           1.7    3.0    1.6    1.8    1.1    0.9    3.7    3.2    3.0    2.8    1.7    1.9    3.2    0.6    3.1    4.7    3.3    2.7    1.9    1.4    4.5
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0841 NATL % 19.4 (Text for this exercise was not released)																					
UNADJ EFFECT	4.9	4.9	-5.9	-2.3	-0.5	-0.8	5.4	2.6	-3.4	-2.5	0.2	1.7	-0.6	-3.4	17.9	9.1	3.9	-1.5	-0.5	0.4	-3.3
STD ERROR	2.8	2.4	1.6	2.4	1.4	1.3	4.4	4.5	2.2	2.1	3.5	2.6	2.1	0.9	4.0	9.3	4.7	3.0	1.9	1.5	7.5
BAL EFFECT	5.3	1.5	-4.6	-1.4	1.1	-0.9	3.1	-1.4	-2.6	-4.0	-0.4	3.2	0.6	-3.5	17.7	10.0	2.4	-3.3	-0.1	1.2	-3.8
STD ERROR	2.4	2.6	1.8	2.7	1.3	1.1	4.0	3.9	2.5	2.6	2.6	2.4	2.1	0.9	3.8	8.7	4.0	3.2	1.8	1.4	6.7
EXER: 0842 NATL % 17.5 (Text for this exercise was not released)																					
UNADJ EFFECT	0.4	-6.0	1.2	3.5	2.1	-1.5	-2.5	-7.3	2.9	2.1	-0.1	4.8	-3.1	1.8	-9.2	-9.0	-11.2	-4.3	-1.2	4.6	-9.6
STD ERROR	2.5	2.1	2.3	2.6	1.4	1.2	3.4	2.6	4.1	3.1	2.3	3.5	2.3	0.5	2.5	3.3	2.4	2.3	1.5	1.1	4.8
BAL EFFECT	-0.6	-4.7	1.9	2.6	1.7	-1.5	-0.2	-4.0	0.7	1.7	-1.4	4.6	-2.3	1.2	-4.6	-9.0	-8.9	-2.8	-1.8	4.0	-10.5
STD ERROR	2.2	2.1	2.1	2.4	1.3	1.2	3.2	3.1	3.9	3.1	2.3	3.3	2.1	0.5	2.8	3.5	2.6	2.2	1.5	0.9	5.6
EXER: 0843 NATL % 15.6 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.8	-5.8	4.3	0.9	4.6	-4.0	3.6	-5.8	-1.0	3.5	-0.8	-1.7	1.6	1.0	-1.9	-6.3	8.4	-5.8	-2.8	3.6	-13.0
STD ERROR	1.8	2.0	2.5	2.5	1.3	1.2	7.1	2.2	2.8	2.6	2.5	2.6	2.7	0.5	2.6	3.0	6.8	1.8	1.6	1.4	1.9
BAL EFFECT	0.3	-7.9	4.3	1.8	4.5	-4.1	7.2	-6.4	-2.9	1.8	-1.7	-1.4	2.7	0.3	3.5	-9.1	10.2	-5.2	-3.3	3.1	-12.1
STD ERROR	1.7	2.3	2.3	2.6	1.2	1.1	6.5	2.1	3.0	2.7	2.6	2.7	2.7	0.7	2.5	4.8	6.1	1.9	1.6	1.8	2.7
EXER: 0844 NATL % 15.6 (Text for this exercise was not released)																					
UNADJ EFFECT	1.1	-2.6	-1.1	2.6	3.4	-2.7	0.7	-5.8	5.5	1.2	-2.3	1.7	-0.8	1.5	-6.7	-6.8	-8.9	-4.3	0.6	3.2	-5.5
STD ERROR	1.9	2.1	1.6	2.0	1.0	0.9	5.8	2.2	3.3	2.9	2.1	2.4	1.7	0.4	2.4	3.2	1.9	1.9	1.4	1.3	5.9
BAL EFFECT	1.2	-1.7	-1.1	1.6	2.8	-2.4	1.5	-3.0	3.3	0.9	-3.1	1.0	0.3	1.0	-3.8	-5.8	-8.1	-2.8	1.1	2.1	-5.0
STD ERROR	2.1	2.3	1.6	2.3	1.0	0.8	5.7	2.3	3.2	3.2	2.1	2.4	1.8	0.4	2.3	3.2	2.0	1.9	1.3	1.3	5.7
EXER: 0845 NATL % 14.8 (Text for this exercise was not released)																					
UNADJ EFFECT	0.2	-0.2	1.2	-1.6	5.5	-4.3	-2.5	1.5	-0.0	-0.1	1.9	3.2	-5.5	0.4	-1.6	-2.2	-7.4	-2.3	2.9	0.7	-6.8
STD ERROR	1.8	2.1	1.7	1.7	1.0	0.8	4.1	1.6	2.9	2.3	2.2	2.6	1.8	0.4	3.0	3.1	2.8	1.9	1.6	1.0	4.1
BAL EFFECT	-1.2	2.3	1.0	-2.1	5.1	-4.2	-4.5	4.5	-0.2	0.5	2.1	2.4	-5.0	0.2	-1.9	0.5	-6.9	-1.6	2.7	0.4	-6.7
STD ERROR	1.7	2.3	1.7	1.6	1.0	0.8	4.1	3.8	2.8	2.4	2.0	2.4	1.9	0.5	3.2	3.8	3.0	1.7	1.6	0.9	4.0
EXER: 0846 NATL % 12.9 (Text for this exercise was not released)																					
UNADJ EFFECT	-1.5	-3.0	-1.3	6.3	4.8	-4.1	2.3	-3.1	1.0	-2.1	1.6	6.2	-6.1	1.1	-5.8	-2.8	-7.3	-0.4	-1.3	2.0	4.8
STD ERROR	1.9	1.9	1.5	1.8	1.2	1.0	4.3	3.3	2.5	2.5	2.1	2.9	1.4	0.5	2.6	3.0	2.6	2.6	1.4	1.3	5.3
BAL EFFECT	-2.5	-1.4	-0.9	5.4	4.6	-3.7	3.5	-1.2	-0.5	-3.4	1.9	5.3	-5.0	0.8	-3.1	-3.5	-6.3	1.7	-1.3	1.0	4.8
STD ERROR	1.9	2.1	1.4	1.7	1.1	0.9	4.2	3.4	2.6	2.3	2.1	2.6	1.5	0.5	2.7	3.1	7.7	2.5	1.4	1.2	5.4
EXER: 0847 NATL % 12.2 (Text for this exercise was not released)																					
UNADJ EFFECT	4.3	-6.0	2.4	-3.1	2.4	-2.2	5.4	-8.0	-1.9	-2.6	1.5	0.3	1.5	1.1	-6.3	-7.3	-9.4	0.9	1.3	1.0	-3.5
STD ERROR	2.7	1.6	2.0	1.6	1.0	1.0	8.4	2.3	3.0	1.8	2.1	2.2	3.6	0.3	1.8	2.4	1.7	3.7	1.6	1.3	3.7
BAL EFFECT	4.2	-6.0	1.9	-2.3	1.9	-1.8	8.7	-7.5	-2.8	-2.4	0.6	0.1	1.7	0.6	-2.5	-6.7	-8.5	1.0	0.7	1.0	-0.5
STD ERROR	2.6	2.0	1.9	1.5	1.0	0.9	8.6	2.6	2.5	1.7	2.0	2.1	3.4	0.3	2.1	3.0	2.1	3.2	1.6	1.1	4.2

```
EXER: 0848  NATL % 11.5   (Text for this exercise was not released)

UNADJ EFFECT     3.8   0.5  -1.3  -2.6   1.6  -1.4  -1.9  -2.3   5.9   0.3  -1.9   1.3   0.2   0.1   0.2  -2.5  -0.9  -2.8  -1.6   2.6  -4.8
STD ERROR        1.8   1.6   1.2   1.3   0.9   0.8   3.5   2.3   5.3   2.0   1.5   2.[illegible]   1.8   0.4   1.9   2.5   3.5   1.7   1.2   1.1   3.3
BAL   EFFECT     3.9   0.2  -0.9  -2.9   1.5  -1.4   0.1  -2.3   5.2   0.2  -2.3   0.7   0.7  -0.3   2.1  -1.0  -1.1  -2.8  -1.6   2.6  -4.6
STD ERROR        1.8   1.9   1.3   1.3   0.9   0.8   3.7   2.5   5.2   1.9   1.6   2.3   1.6   0.4   2.0   2.6   3.5   1.6   1.2   1.2   3.3

EXER: 0849  NATL %  7.5   (Text for this exercise was not released)

UNADJ EFFECT     3.1  -1.0  -1.4  -0.4   3.0  -3.0  -2.6   0.6  -1.7   2.1  -2.5   2.1   0.9   0.6  -2.3  -2.3  -4.3   0.8  -1.0   1.5  -3.6
STD ERROR        1.8   1.3   1.4   1.6   0.8   0.8   2.3   1.5   2.4   3.4   1.4   2.1   1.5   0.3   1.6   2.6   1.4   1.7   1.1   0.9   1.4
BAL   EFFECT     3.0  -1.0  -1.2  -0.4   2.9  -2.9  -1.3   2.0  -3.1   1.6  -3.3   1.8   1.4   0.4  -1.6  -2.1  -4.1   0.5  -1.2   1.7  -3.4
STD ERROR        1.6   1.3   1.3   1.6   0.8   0.8   2.3   2.0   2.4   3.5   1.5   1.9   1.5   0.4   2.0   2.4   1.5   1.8   1.1   0.9   1.5

EXER: 0850  NATL %  4.8   (Text for this exercise was not released)

UNADJ EFFECT     0.1  -3.2   2.4  -0.5  -0.3   0.3   0.2  -1.0  -1.8   2.3   1.6   0.2  -1.5   0.3  -2.5  -0.3   0.8  -1.9   1.7  -0.6   1.6
STD ERROR        0.9   0.8   1.3   1.0   0.4   0.4   2.1   2.2   1.2   1.2   1.3   2.4   1.2   0.2   0.9   2.5   1.4   0.9   1.2   0.6   3.4
BAL   EFFECT     0.1  -2.8   2.2  -0.8  -0.3   0.3  -0.3  -0.8  -1.8   2.4   0.9   0.3  -0.9   0.2  -1.8  -0.3   0.9  -1.7   1.4  -0.5   1.3
STD ERROR        0.9   0.8   1.3   1.0   0.4   0.4   2.0   2.4   1.2   1.2   1.3   2.2   1.2   0.2   1.1   2.6   1.5   0.9   1.1   0.6   3.5

EXER: 0851  NATL %  3.6   (Text for this exercise was not released)

UNADJ EFFECT     2.4  -0.4  -1.9   0.3   1.6  -1.6  -2.3  -0.3   3.2   0.3   1.0   0.9  -1.9   0.0   0.7  -1.8  -2.5  -1.9  -0.3   1.7  -3.6
STD ERROR        1.2   1.0   0.6   1.0   0.5   0.5   0.8   1.0   2.4   1.5   1.1   1.4   0.8   0.2   1.3   0.9   0.7   0.7   0.8   0.7   0.5
BAL   EFFECT     2.1   0.3  -1.6  -0.4   1.6  -1.6  -1.1  -0.5   2.4   0.1   0.6   0.8  -1.5  -0.3   2.2  -1.4  -2.4  -1.9  -0.2   1.7  -2.9
STD ERROR        1.1   1.0   0.6   0.9   0.5   0.5   0.9   1.1   2.3   1.6   1.2   1.4   0.8   0.1   1.4   1.2   0.8   0.8   0.7   0.7   0.6

OBJECTIVE:    Possess the ability and skills needed to engage in the processes of science.

EXER: 0852  NATL % 73.1   (Text for this exercise was not released)

UNADJ EFFECT     8.0  -8.8  -4.0   3.8   7.0  -7.3  -5.0  -6.5   1.3   0.5   8.0  -3.2  -1.6   3.7 -35.7   8.9 -11.1  -8.4  -2.5   7.4  -0.5
STD ERROR        3.4   5.7   3.5   3.5   2.1   3.2   7.9   5.5   6.4   4.8   3.7   4.8   5.0   1.9   5.7   8.1  11.1   5.4   3.6   2.9  12.8
BAL   EFFECT     6.4  -1.5  -4.8   1.0   5.8  -6.1   0.0   6.5  -5.1   0.6   5.4  -5.3  -1.1   3.2 -33.4  13.8  -9.3  -5.4  -2.7   6.3  -7.1
STD ERROR        6.7   5.4   3.2   3.1   2.5   2.8  14.6   6.0   5.5   5.0   3.6   4.0   4.1   0.9   5.9   9.4  16.8   5.3   3.5   2.8  11.3

EXER: 0853  NATL % 65.0   (Text for this exercise was not released)

UNADJ EFFECT     4.2  -8.1   1.2   0.6   3.3  -2.7 -25.6  -8.5  16.8  -3.6  -0.4   9.9  -6.5   2.9 -17.0 -16.4 -34.5 -19.2   4.4  14.6 -39.7
STD ERROR        3.1   3.9   3.1   2.7   1.8   1.7   6.0  10.6   5.0   4.3   4.4   3.0   3.3   0.9   5.0   6.8   6.9   3.7   2.1   1.8   8.8
BAL   EFFECT     1.4  -1.4   1.0  -1.7   1.6  -1.5 -16.7   0.9  13.0  -2.9  -2.0   6.6  -5.5   1.6 -10.9  -5.8 -32.1 -15.4   4.9  12.2 -40.1
STD ERROR        2.3   3.8   2.7   2.1   1.3   1.3   4.8   8.7   3.6   3.7   3.5   2.9   2.8   0.8   5.7   6.2   6.6   3.2   1.9   1.8   7.7

EXER: 0854  NATL % 64.1   (Text for this exercise was not released)

UNADJ EFFECT    -4.0  -6.6  -0.1   9.5   5.8  -5.6 -18.6 -21.2   7.7  -2.5   1.7   8.9   4.4   5.1 -27.9 -44.5 -23.6 -13.3  -4.4  12.3 -14.4
STD ERROR        3.4   4.7   3.7   2.4   2.2   2.3   8.3   7.6   5.3   5.3   4.3   3.4   4.2   1.0   5.8   7.3   9.4   5.6   3.5   2.3  16.4
BAL   EFFECT    -5.4  -2.9  -1.0   8.9   5.1  -4.9  -8.9  -9.9   2.4  -4.6  -1.2   7.0   4.1   3.3 -15.4 -38.1  -9.9  -8.2  -4.7   8.7 -19.2
STD ERROR        3.2   4.6   3.3   2.7   2.1   2.2   7.3   8.1   5.0   5.8   4.0   3.4   4.3   1.1   7.3   6.0   8.5   5.4   3.4   2.3  19.9
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0855 NATL % 62.7 (Text for this exercise was not released)																					
UNADJ EFFECT	6.0	-9.9	3.5	-1.4	2.9	-2.2	-1.9	-11.1	10.5	5.7	3.8	4.0	-8.1	5.6	-23.5	-15.6	-9.9	-10.3	-0.2	9.7	-28.7
STD ERROR	2.7	3.8	2.6	2.9	1.6	1.4	8.4	4.7	4.5	3.2	2.7	3.3	2.4	1.1	3.9	6.3	6.6	3.0	2.1	1.8	4.9
BAL EFFECT	4.3	-4.8	1.6	-2.1	1.5	-1.4	7.1	-3.4	5.9	4.6	0.9	1.1	-7.9	4.8	-19.0	-15.2	-7.5	-5.8	-0.6	7.2	-29.7
STD ERROR	2.3	3.5	2.5	2.6	1.5	1.4	6.0	4.4	4.3	3.1	2.5	3.1	2.4	1.1	4.4	6.7	6.1	3.0	2.1	1.8	6.4
EXER: 0856 NATL % 60.1 (Text for this exercise was not released)																					
UNADJ EFFECT	1.1	-9.5	1.1	5.1	1.6	-1.5	-10.5	-17.9	8.9	-4.3	3.3	2.5	4.2	4.1	-27.2	-20.1	-11.2	-9.8	-7.0	10.9	-14.3
STD ERROR	3.3	5.4	3.2	2.7	2.0	2.0	8.5	6.8	6.2	4.8	4.7	4.7	4.6	0.9	5.5	18.0	9.7	5.4	3.5	2.5	16.2
BAL EFFECT	0.9	-5.7	0.1	3.7	1.3	-1.2	-3.0	-7.0	3.5	-5.8	1.0	0.3	4.5	2.9	-18.4	-17.1	-1.9	-5.3	-7.4	8.2	-16.7
STD ERROR	3.6	5.5	3.3	3.4	2.2	2.1	8.7	8.4	6.3	4.9	5.1	4.9	4.6	1.0	6.9	21.0	8.9	5.2	3.5	2.5	19.2
EXER: 0857 NATL % 55.6 (Text for this exercise was not released)																					
UNADJ EFFECT	-1.7	-7.3	1.3	6.7	1.4	-1.0	-20.6	-17.4	10.6	-0.4	7.6	1.6	-2.8	3.1	-23.7	-8.1	-7.1	-15.4	0.9	9.0	-38.2
STD ERROR	3.4	3.2	2.8	2.8	1.9	1.8	9.2	7.2	5.6	2.9	3.7	3.0	3.9	0.8	4.3	11.2	7.0	3.8	2.2	1.8	7.3
BAL EFFECT	-2.9	-1.6	-0.0	4.8	0.4	-0.4	-16.9	-7.6	7.4	-0.5	6.5	-0.1	-2.3	2.3	-17.3	-4.2	-3.9	-11.2	0.5	6.9	-41.3
STD ERROR	3.0	3.3	3.2	2.6	1.6	1.5	9.0	9.6	5.4	2.7	3.7	2.6	3.6	0.7	5.6	8.5	6.8	3.5	2.1	1.7	7.3
EXER: 0858 NATL % 49.5 (Text for this exercise was not released)																					
UNADJ EFFECT	2.7	-11.0	0.4	5.9	5.7	-3.9	-2.2	-9.5	0.4	-5.4	6.4	3.9	-1.7	3.7	-19.7	-12.9	-19.7	-14.3	5.1	7.3	-15.3
STD ERROR	3.8	3.3	2.2	2.2	1.5	1.2	5.0	4.0	5.0	3.4	3.9	3.7	3.2	0.9	3.1	7.3	5.5	3.3	2.3	1.9	10.4
BAL EFFECT	1.3	-6.9	-0.6	5.2	3.8	-3.1	-0.1	-2.3	-6.0	-6.0	4.0	1.7	2.4	2.7	-12.5	-13.6	-16.4	-11.8	4.8	5.7	-18.9
STD ERROR	3.1	3.5	2.0	2.6	1.4	1.1	5.2	3.6	4.8	3.3	3.1	3.8	2.9	1.0	3.8	9.1	5.5	3.5	2.3	1.9	10.2
EXER: 0859 NATL % 34.9 (Text for this exercise was not released)																					
UNADJ EFFECT	4.5	-6.4	-4.9	6.6	8.7	-9.2	-9.9	-18.8	0.1	2.8	6.6	2.1	1.2	2.2	-18.4	-1.9	-18.6	-6.6	2.8	4.6	5.5
STD ERROR	4.5	4.7	4.1	4.7	1.8	2.7	6.5	5.7	7.6	6.6	4.5	4.9	6.8	1.5	4.9	11.5	5.5	5.5	3.5	3.2	16.5
BAL EFFECT	2.1	-3.0	-4.1	5.4	8.2	-8.7	-6.9	-13.6	-3.4	2.6	5.1	1.8	1.6	0.9	-9.7	3.6	-15.9	-3.5	2.7	2.8	6.5
STD ERROR	4.6	5.8	3.7	4.5	2.3	2.4	7.5	6.9	7.0	6.5	4.3	4.6	5.8	0.8	6.3	12.0	11.2	5.4	3.3	3.3	15.1
EXER: 0860 NATL % 30.1 (Text for this exercise was not released)																					
UNADJ EFFECT	-4.4	-2.1	0.4	5.6	1.7	-1.7	0.8	-3.8	1.0	-1.1	0.9	1.7	-1.5	2.7	-16.0	-20.0	-10.6	-9.8	-5.9	9.0	14.8
STD ERROR	4.1	3.6	3.6	3.9	2.1	2.1	6.4	5.2	6.7	4.5	4.4	4.3	5.6	0.7	3.9	5.7	7.7	5.6	3.4	2.6	18.2
BAL EFFECT	-3.9	0.4	-0.5	4.2	0.8	-0.8	7.8	6.0	-3.9	-1.9	-0.4	-1.1	-1.6	2.4	-12.9	-22.6	-8.3	-7.9	-6.3	8.2	17.1
STD ERROR	3.9	3.4	3.5	4.1	2.2	2.1	5.8	5.8	6.5	4.3	4.1	4.4	5.4	0.8	4.5	6.9	6.8	5.7	3.5	2.9	18.0
EXER: 0861 NATL % 29.2 (Text for this exercise was not released)																					
UNADJ EFFECT	10.9	-15.5	-3.2	4.8	7.4	-7.8	-16.7	-7.3	11.2	0.4	0.9	-0.8	4.2	3.3	-22.8	-13.5	-21.1	-13.8	1.9	10.1	-24.6
STD ERROR	5.6	3.5	3.3	4.6	2.3	2.4	6.6	5.7	9.4	5.2	4.3	5.1	6.2	0.7	3.6	6.7	4.2	4.3	4.0	3.1	5.2
BAL EFFECT	9.2	-11.4	-3.1	3.4	5.8	-6.1	-7.2	1.7	3.2	-1.8	-2.0	-1.6	5.8	2.1	-15.5	-5.8	-18.6	-9.5	1.6	8.1	-26.2
STD ERROR	5.8	3.9	3.2	4.5	2.1	2.2	8.1	5.3	9.4	5.1	4.2	4.8	5.8	0.5	3.8	6.4	4.3	4.0	3.8	2.9	6.7

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EXER: U862  NATL % 25.4   (Text for this exercise was not released)

UNADJ EFFECT       3.4   0.4    2.3  -6.7    2.8  -2.9   -1.2  -1.4   1.4  -7.8   3.3   2.3  -1.0    -0.5   0.3    9.5 -10.1   3.7    3.8    -1.3  -8.8
STD ERROR          3.9   4.5    3.2   3.1    2.0   2.1    5.9   5.4   6.1   3.7   4.3   3.3   4.7     0.8   5.0   11.5   5.4   5.3    3.5     2.2  12.5
BAL   EFFECT       2.9   0.6    2.8  -6.9    3.1  -3.2   -1.2  -3.2   3.6  -5.8   3.0   1.8  -1.8    -1.0   2.7   14.9 -10.3   2.9    2.9    -0.5  -7.9
STD ERROR          4.0   4.6    3.4   3.1    1.9   2.0    7.2   5.7   6.3   3.8   4.2   3.2   4.9     0.8   5.4   11.8   5.5   5.6    3.5     2.4  12.9

EXER: U863  NATL % 24.8   (Text for this exercise was not released)

UNADJ EFFECT       1.5  -9.8    1.6   4.3    0.6  -0.6   -8.0  -9.8   5.1   1.9  -0.1  -0.6   4.9     1.6 -12.7    0.4  -5.0 -13.7   -3.9     9.4 -24.8
STD ERROR          3.4   3.5    3.3   3.7    1.9   1.9    8.5   5.0   6.8   4.8   4.8   4.6   5.3     0.9   4.3   21.6  11.1   3.9    2.3     2.4   2.1
BAL   EFFECT       1.6  -7.9    1.0   3.4    0.7  -0.6   -2.7  -5.8   1.3  -0.7  -1.8  -1.4   6.9     0.2  -2.9    5.0  -2.0 -12.7   -3.6     8.5 -21.2
STD ERROR          3.5   4.3    3.4   4.2    1.9   1.9    8.0   5.8   7.2   5.0   4.9   4.8   4.5     0.9   5.1   22.2   9.7   3.9    2.3     2.3   6.0

EXER: U864  NATL % 22.0   (Text for this exercise was not released)

UNADJ EFFECT       3.3  -3.4   -1.8   1.5   11.8  -9.8    1.2  -2.5   5.7  -0.4  -0.9  -0.0  -2.0     1.5  -8.6   -6.2 -13.4  -9.4    2.1     5.1 -10.0
STD ERROR          2.8   2.0    2.4   2.5    1.5   1.1    3.9   2.6   4.4   4.1   2.7   2.9   2.8     0.5   2.4    5.2   2.5   1.7    1.7     1.3   5.4
BAL   EFFECT       2.5  -0.8   -1.9   0.2   11.1  -9.6    3.4   2.4   2.1  -0.1  -2.0  -0.8  -0.8     1.1  -5.1   -6.1 -13.3  -7.7    1.1     4.8  -6.9
STD ERROR          2.2   1.8    2.3   2.5    1.4   1.1    3.6   2.2   3.7   3.6   2.5   2.7   2.8     0.5   2.4    5.6   3.1   1.7    1.6     1.3   4.6

EXER: U865  NATL % 20.6   (Text for this exercise was not released)

UNADJ EFFECT       2.3  -4.4    3.1  -2.1    2.5  -2.2   -3.8  -4.7   0.1  11.1  -1.0  -1.3  -0.2     0.7  -3.8   -0.5 -10.4  -0.4   -0.5     2.6  11.9
STD ERROR          2.6   2.5    2.1   1.7    1.3   1.1    4.9   2.2   3.2   5.3   1.9   2.4   2.9     0.5   2.4    5.3   1.8   2.7    1.7     1.3   9.6
BAL   EFFECT       2.2  -2.9    3.2  -3.4    2.0  -1.8   -2.2  -4.0  -1.4  10.6  -2.3  -0.9   0.5     0.3  -2.1    1.1  -9.6  -0.2   -0.6     2.4  13.1
STD ERROR          2.5   2.5    2.2   1.8    1.2   1.1    5.4   2.6   3.0   5.1   2.0   2.3   2.8     0.6   3.0    5.2   3.8   2.6    1.8     1.4   9.6

OBJECTIVE:    Understand the investigative nature of science.

EXER: U866  NATL % 30.9   (Text for this exercise was not released)

UNADJ EFFECT       6.1  -8.9   -1.1   3.6    1.4  -1.4  -11.8 -10.8  26.2   3.6  -1.6   3.0  -4.2     3.0 -16.7   -1.7 -11.5 -14.6   -1.4    10.4 -15.4
STD ERROR          2.2   2.1    2.3   3.4    1.6   1.6    4.0   3.6   4.4   4.0   2.9   2.5   3.7     0.8   2.3    5.7   4.7   2.2    2.0     1.4   5.0
BAL   EFFECT       4.2  -5.3   -0.6   1.6    0.7  -0.7   -7.9  -4.2  20.2   2.0  -5.1   2.0  -1.8     1.8  -8.9   -3.6  -9.8 -10.7   -0.0     7.3 -12.7
STD ERROR          2.1   2.3    2.4   2.3    1.4   1.4    3.9   4.0   4.6   3.6   2.7   2.4   3.5     0.7   2.9    4.4   4.3   2.3    1.9     1.5   5.0

EXER: U867  NATL % 18.5   (Text for this exercise was not released)

UNADJ EFFECT      -0.3   2.6   -0.1  -1.9    1.5  -1.3  -10.6   4.1   6.5  -3.2   3.5   1.9  -4.0     0.9  -3.0   -9.1   2.6  -2.5   -2.1     1.8   1.3
STD ERROR          2.2   2.6    1.9   2.1    1.8   1.8    2.8   6.3   4.0   2.2   4.3   3.5   2.4     0.5   3.7    3.5   5.6   3.4    1.9     1.4   8.3
BAL   EFFECT      -1.4   3.4    0.4  -2.0    1.5  -1.4  -11.0   5.9   5.9  -2.1   3.3   1.4  -4.2     0.9  -3.7   -6.8   3.3  -0.8   -2.3     0.9   3.3
STD ERROR          2.2   2.8    2.2   2.0    1.6   1.6    3.0   6.3   4.2   2.2   4.3   3.5   2.6     0.6   4.3    3.6   5.4   3.0    1.9     1.4   7.9

EXER: U868  NATL %  4.9   (Text for this exercise was not released)

UNADJ EFFECT       2.7  -1.4   -1.0  -0.6    0.4  -0.4   -1.8  -1.5   7.6  -1.2  -1.5   1.4  -2.9     0.3  -0.8   -4.0  -3.9  -3.8   -2.3     3.7   5.0
STD ERROR          2.8   1.5    1.6   1.4    1.1   1.0    2.0   1.8   6.0   1.7   1.5   2.3   1.3     0.3   1.8    1.3   1.3   1.2    1.3     1.4   5.1
BAL   EFFECT       2.1  -0.7   -0.5  -1.2    0.1  -0.1    0.1  -0.9   6.0  -1.2  -1.1   0.6  -2.3     0.1   0.5   -2.7  -3.9  -3.0   -2.0     3.2   5.4
STD ERROR          2.2   1.4    1.5   1.6    0.9   0.9    1.7   1.7   5.3   1.8   1.3   2.3   1.2     0.2   1.6    1.3   1.2   0.8    1.0     1.1   5.0
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OBJECTIVE: Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.

EXER: U869 NATL % 9.4 (Text for this exercise was not released)

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	2.8	-0.9	-1.4	-0.3	3.5	-3.5	-4.3	-4.1	3.0	2.1	3.3	-1.0	-0.3	0.5	-3.2	0.5	4.4	-3.5	-3.4	2.8	-5.0
STD ERROR	1.6	1.6	1.3	1.3	1.0	1.0	1.8	1.2	4.0	2.4	2.1	1.5	1.6	0.3	1.5	3.9	4.7	1.4	1.1	1.0	2.4
BAL EFFECT	1.8	0.3	-0.8	-1.1	3.7	-3.7	-3.7	-3.0	1.3	1.8	3.0	-1.2	0.3	-0.1	-0.1	1.6	5.2	-3.1	-3.5	2.5	-4.3
STD ERROR	1.5	1.6	1.3	1.3	0.9	0.9	2.3	1.5	4.0	2.5	2.1	1.5	1.6	0.4	1.8	3.9	4.6	1.4	1.1	1.2	2.8

EXER: U870 NATL % 5.1 (Text for this exercise was not released)

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	1.1	0.6	-0.9	-0.6	2.6	-2.4	3.1	8.7	0.7	-1.3	-1.6	-0.6	-2.4	-0.1	0.8	-0.3	-1.7	2.1	-0.1	-0.4	-1.6
STD ERROR	2.0	1.0	1.0	1.1	0.9	0.8	1.7	7.0	2.3	1.1	0.9	1.0	0.9	0.3	1.8	2.3	1.4	2.6	0.9	0.8	3.5
BAL EFFECT	0.6	1.3	-1.1	-0.3	2.5	-2.3	3.0	9.5	0.4	-0.9	-1.9	-0.6	-2.4	0.3	-1.9	-1.4	-2.0	1.7	0.0	-0.2	-3.0
STD ERROR	1.6	0.9	1.0	1.3	0.8	0.7	1.7	7.3	2.5	1.1	1.1	1.0	0.9	0.5	2.9	2.8	1.5	2.2	0.9	0.8	4.0

AGE ADULT

OBJECTIVE: Know fundamental facts and principles of science.

EXER: R401 NATL % 95.3 Identify groups of animals and plants which would be found in a desert community.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	2.4	-6.1	-0.8	2.3	1.1	-1.0	-1.8	-5.7	2.1	-4.7	4.3	0.9	-5.7	2.4	-18.0	-8.3	-4.5	2.3	0.9	3.9	-10.3
STD ERROR	0.9	2.2	1.4	1.1	0.9	0.8	2.0	3.7	1.4	4.2	0.8	1.3	2.2	0.6	4.4	8.8	1.5	1.0	1.2	0.9	5.0
BAL EFFECT	2.5	-2.4	-2.4	1.9	0.8	-0.8	-1.1	0.6	-0.3	-5.1	3.6	1.4	-5.2	2.2	-16.6	-6.9	-2.0	3.1	0.1	1.4	-8.1
STD ERROR	1.0	1.5	1.3	1.2	0.8	0.7	2.0	3.6	1.7	3.5	1.0	1.1	1.9	0.6	4.2	8.6	1.1	1.5	1.2	0.9	4.3

EXER: R402 NATL % 91.3 The sex of a human baby is determined by chromosomes.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	1.0	-8.1	1.6	3.2	-1.8	1.6	-6.0	-14.5	8.3	-2.0	1.6	-1.0	-0.9	3.4	-23.9	-13.6	-5.0	-1.5	3.5	7.0	-20.7
STD ERROR	1.6	3.0	1.7	1.5	1.1	0.9	4.7	5.6	1.1	3.5	1.9	2.6	2.2	0.7	4.6	9.8	2.1	2.8	2.2	1.2	6.4
BAL EFFECT	-0.3	-4.5	1.0	2.8	-1.8	1.7	-4.8	-3.2	5.6	0.3	-0.3	-1.4	-0.6	2.9	-19.7	-12.8	-2.0	0.7	1.6	3.4	-15.4
STD ERROR	1.4	2.8	1.5	1.4	1.0	0.9	4.3	5.9	1.3	3.4	1.8	2.5	2.2	0.7	4.4	10.9	2.1	2.7	2.1	1.1	5.7

EXER: R403 NATL % 84.7 The movement and characteristics of air masses are important in predicting weather.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-1.3	-8.4	0.6	7.5	4.9	-4.5	-4.5	-14.8	5.5	-5.1	0.7	4.3	-2.7	4.7	-31.1	-36.3	-6.8	6.3	2.1	6.4	-29.8
STD ERROR	2.2	3.6	2.1	2.0	1.9	2.0	5.4	5.8	2.4	6.4	3.1	2.1	3.1	1.0	6.7	10.1	2.2	2.3	2.7	2.0	6.5
BAL EFFECT	-1.6	-3.4	-1.5	7.2	4.0	-3.6	-4.6	-3.9	1.3	-4.4	-1.1	5.9	-2.9	4.2	-27.7	-34.4	-2.4	8.4	0.8	1.2	-24.6
STD ERROR	2.0	3.3	1.9	2.0	1.9	1.9	5.1	6.1	2.8	6.7	2.9	1.6	2.8	1.0	6.8	9.5	2.4	2.8	2.4	2.2	5.6

EXER: R404 NATL % 78.7 A malady that cannot be inherited is whooping cough.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	1.7	-13.1	2.6	4.8	-2.0	1.9	2.9	-17.6	11.8	0.3	1.7	-7.5	2.6	2.7	-17.7	-11.9	-10.2	3.3	-1.8	11.2	-6.5
STD ERROR	3.5	3.7	2.4	3.1	1.8	1.8	4.5	6.3	2.9	4.4	2.6	3.8	3.2	0.6	5.3	10.1	3.4	4.1	4.2	2.9	7.8
BAL EFFECT	1.4	-10.3	1.8	3.9	-2.9	2.7	5.4	-9.4	6.6	2.2	-0.7	-7.0	5.1	1.9	-10.9	-12.8	-7.2	2.9	-1.5	7.5	-3.0
STD ERROR	3.1	4.0	2.4	2.9	2.0	1.9	4.2	6.3	3.0	4.4	2.6	3.6	2.9	0.6	5.0	10.0	3.8	4.1	4.1	3.2	8.6

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EXER: R405  NATL % 70.5    Sterilizing an adult human male by "tying off" his main sperm ducts will not impair his health.

UNADJ EFFECT      -5.1  -7.7   10.0  -1.9   -2.2    1.9   -9.5 -26.4   19.4 -12.0    9.4   1.8  -3.7    6.9 -35.9 -17.1  -16.2   0.1   15.4    11.8 -42.4
STD ERROR          4.0   4.3    2.8   4.2    2.5    2.1    5.2   8.7    3.9   7.4    3.4   3.9   4.6    1.3   5.9  12.6    3.5   4.4    2.8     3.2   8.3
BAL   EFFECT      -6.0  -2.8    7.2  -1.3   -2.7    2.3   -8.8  -5.6   11.8  -7.1    1.1   2.3  -2.7    5.0 -26.1 -12.2  -11.3   0.6   11.4     7.7 -33.5
STD ERROR          3.4   3.3    2.7   3.6    2.2    1.8    5.7   7.9    3.4   8.8    3.3   3.5   4.0    1.2   6.0  11.5    3.3   3.9    2.6     3.1   7.6

EXER: R406  NATL % 69.4    Adrenaline acts as a stimulant to the heart.

UNADJ EFFECT       3.2 -10.6   -2.0   7.6   -2.6    2.4  -23.5 -20.7   14.3  -7.2    7.2   0.9  -8.2    5.5 -33.2 -36.8  -19.3  -0.7    9.2    15.2 -19.0
STD ERROR          3.7   4.4    3.2   3.9    2.0    1.8    6.3   7.6    3.9   7.1    3.6   3.4   4.4    1.0   6.1  11.8    3.6   4.4    3.1     3.0   8.7
BAL   EFFECT       2.7  -4.8   -4.1   6.2   -1.9    1.7  -19.1  -1.8    8.3  -6.5    2.0   2.1  -3.9    4.4 -26.8 -27.8  -12.8   1.0    6.2     9.5 -14.4
STD ERROR          2.9   4.3    3.1   3.8    1.9    1.7    5.9   6.9    3.5   7.1    4.0   3.1   4.4    1.0   6.2  13.1    3.6   4.1    3.0     3.4   7.6

EXER: R407  NATL % 68.1    In mammals sperm is produced by the testes.

UNADJ EFFECT       3.7  -5.9    1.7  -1.7   -1.4    1.3   -2.6 -25.9   22.0 -18.5    9.7  -3.8  -4.5    5.0 -34.1 -18.1  -17.0  -1.6    7.5    22.1 -38.9
STD ERROR          4.5   5.5    3.2   4.5    2.0    1.8    6.5   5.9    3.0   7.7    3.3   4.5   4.4    0.9   4.2   9.7    3.1   3.7    3.0     2.7   7.9
BAL   EFFECT       0.4   0.3    2.2  -3.7   -1.4    1.3    2.4 -15.8   14.4 -13.6    4.1  -1.3  -1.9    2.3 -18.4  -2.2  -14.4  -0.3    6.0    18.1 -31.4
STD ERROR          2.8   4.4    2.8   3.8    1.9    1.8    5.3   5.1    3.2   7.7    3.3   4.1   4.4    0.8   4.7   9.0    3.0   3.3    3.0     3.0   7.3

EXER: R408  NATL % 64.3    The purpose of a fuse in an electrical circuit is to prevent possible damage to the circuit.

UNADJ EFFECT      -1.2  -3.7   -0.5   5.3   16.7  -15.5    9.3 -11.2   -0.9  -1.5   -0.3  -1.0   4.4    2.8 -21.8  -3.0   -3.9  -1.4    0.1     3.1   7.4
STD ERROR          3.1   3.3    2.9   3.5    2.1    2.1    5.7   7.8    6.4   5.4    3.2   2.8   3.9    0.8   5.1  12.1    3.2   3.9    3.8     3.4   7.9
BAL   EFFECT       2.3  -0.6   -2.6   1.7   16.9  -15.8    7.2  -3.5   -1.5  -1.8   -2.9   1.3   4.0    2.9 -20.3  -8.5    0.6  -1.0   -3.3     1.8   6.6
STD ERROR          2.9   3.1    2.3   3.3    2.0    1.9    5.0   8.1    6.4   5.1    3.5   2.8   3.3    0.9   6.1   9.0    3.3   3.8    3.3     3.3   7.5

EXER: R409  NATL % 62.5    The idea of natural selection is usually associated with Darwin's theory of evolution.

UNADJ EFFECT       5.1 -13.7    0.1   4.6    2.0   -1.8  -30.7 -25.8   21.0  -2.5    9.3  -2.2 -12.0    4.2 -31.3 -11.5  -13.0 -14.6    7.4    21.1 -31.0
STD ERROR          4.9   4.4    4.3   4.8    2.0    1.8    5.8   7.0    3.6   7.9    3.3   4.6   4.5    0.9   5.6  15.2    4.3   4.9    3.8     3.6   7.5
BAL   EFFECT       2.1  -4.2   -0.4   1.3    2.2   -1.9  -28.1  -9.7   12.1  -1.8    8.0  -0.8 -10.1    2.3 -19.2  -3.0   -9.4 -11.4    5.2    16.5 -25.0
STD ERROR          3.8   4.3    4.0   3.3    1.9    1.8    5.3   6.7    3.9   7.8    3.4   4.4   4.3    0.9   5.7  15.0    4.5   4.9    4.0     3.9   7.3

EXER: R410  NATL % 62.1    An electric current in a copper wire involves the movement of electrons.

UNADJ EFFECT       5.8   0.1   -3.2  -3.4   13.4  -12.2   -8.2  -8.8   11.5  -7.4    1.6   0.1  -3.8    0.4   1.4 -16.1   -3.3  -3.9    7.2     1.8 -18.0
STD ERROR          4.7   4.4    4.2   4.1    2.4    2.5    6.0   6.8    5.6   7.3    4.9   4.6   4.2    0.9   6.0   8.6    3.1   5.8    3.1     4.2   9.5
BAL   EFFECT       5.5   0.8   -3.2  -3.7   13.3 [illegible] -6.9  -6.8    8.0  -9.6    2.1   1.5  -4.0   -0.4   4.9  -5.6   -2.2  -4.1    7.3     0.7 -18.4
STD ERROR          4.6   5.6    4.1   4.3    2.3    2.4    6.1   7.1    5.9   7.4    4.8   4.7   4.6    0.9   6.3  10.3    3.0   4.9    3.1     3.5   8.4

EXER: R411  NATL % 62.0    Flower seeds develop from the ovules rather than leaves, petals, roots, or stems.

UNADJ EFFECT       0.6  -8.8    1.5   4.4    1.9   -1.7   -5.1 -26.4   18.5 -11.4    8.3  -7.8  -4.9    4.1 -26.1 -18.6  -17.9  -0.4    4.2    20.2 -37.1
STD ERROR          4.9   6.4    3.9   5.0    2.4    2.2    6.9   6.9    5.1   7.0    4.7   5.8   3.9    1.0   5.3  16.9    3.9   4.6    3.2     3.3   7.3
BAL   EFFECT       0.5  -5.3    0.3   3.2    0.3   -0.2   -0.8 -15.4    9.0  -4.8    4.1  -5.8   0.3    2.4 -13.4 -12.3  -14.8   2.9    2.4    15.8 -31.1
STD ERROR          3.6   6.1    3.5   4.3    1.9    1.7    6.5   5.9    4.4   6.9    4.2   5.3   3.5    0.9   4.8  16.3    3.9   4.7    3.4     3.4   7.8

EXER: R412  NATL % 60.0    Physical rejection of a transplanted organ is least likely if the donor is an identical twin.

UNADJ EFFECT       4.0 -11.5    0.5   3.6   -1.6    1.4  -15.9 -19.2   14.3   2.8    2.7  -2.5  -3.7    4.2 -32.7  -6.8  -14.1 -11.5    7.2    19.3 -25.1
STD ERROR          4.7   5.2    3.1   4.3    2.3    2.0    6.0   5.9    5.2   9.4    3.7   4.0   4.0    0.8   5.5  14.6    4.1   5.6    4.3     2.8   7.7
BAL   EFFECT       1.3  -3.3   -0.1   1.1   -1.4    1.2  -13.9  -1.1    6.8   3.9    0.5  -1.3  -2.4    3.0 -24.3  -0.3  -11.3  -8.8    5.1    15.7 -18.7
STD ERROR          3.8   5.0    2.9   3.6    2.0    1.8    5.4   6.2    4.7   8.4    3.9   3.3   4.0    0.8   6.6  14.0    4.1   5.5    4.3     3.2   7.5
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: R413 NATL % 59.8	Most of the chemical energy expended in an automobile engine is not used to move the car but is changed to heat.																				
UNADJ EFFECT	4.9	-6.8	0.1	-0.2	17.0	-15.6	-3.9	-6.6	5.0	0.3	-2.2	5.9	-3.7	2.8	-14.7	-20.3	-11.0	-1.1	7.0	9.1	-10.9
STD ERROR	2.6	4.0	2.9	3.6	2.1	1.8	6.9	7.3	4.6	7.6	3.6	3.9	3.0	0.9	6.1	10.7	3.7	4.7	3.1	3.9	8.2
BAL EFFECT	3.8	-4.5	0.7	-1.7	16.6	-15.2	-3.1	-1.6	0.9	2.9	-1.6	3.1	-1.8	2.0	-9.2	-17.5	-7.4	-2.2	4.0	8.0	-8.1
STD ERROR	2.7	3.9	3.0	3.8	2.2	1.7	5.4	8.3	4.4	7.2	3.8	3.3	2.8	1.0	6.7	11.8	3.7	4.2	3.1	4.0	7.8
EXER: R414 NATL % 56.9	Salt carried by the rivers to the oceans comes from beneath the ground.																				
UNADJ EFFECT	-2.7	-0.6	2.8	0.1	5.4	-4.9	5.5	-15.5	4.9	-2.0	-1.7	2.9	-2.1	2.2	-19.0	2.5	-6.4	-0.6	3.6	7.2	-16.8
STD ERROR	3.5	4.3	3.3	3.9	2.4	2.2	5.6	6.3	5.5	6.8	4.2	3.6	4.4	0.8	5.4	9.0	2.8	4.3	4.4	3.5	7.6
BAL EFFECT	-2.4	1.8	1.2	-0.1	5.0	-4.6	4.6	-4.9	0.8	0.9	-2.5	2.9	-0.9	1.4	-14.5	8.4	-6.7	0.1	2.9	6.9	-13.4
STD ERROR	3.8	4.5	3.5	4.2	2.3	2.1	5.9	8.0	5.8	7.1	4.5	3.9	4.6	0.9	6.3	10.5	3.0	4.4	4.5	3.6	7.1
EXER: R415 NATL % 55.3	A boat travelling at 5 miles per hour down a river which flows at 5 miles per hour will take 60 minutes to go 10 miles downstream.																				
UNADJ EFFECT	5.6	-8.4	3.1	-5.0	15.3	-13.7	-2.8	-17.6	20.0	-6.8	-1.3	-1.4	-6.4	3.8	-28.9	-7.6	-9.2	0.2	2.0	12.2	-23.9
STD ERROR	4.9	3.9	3.8	4.9	2.1	2.2	6.7	8.5	4.0	7.1	4.1	4.4	4.7	0.8	4.5	15.9	4.0	4.1	4.1	3.7	7.2
BAL EFFECT	4.1	-4.0	5.1	-9.6	15.6	-13.9	-2.3	-0.5	12.2	-4.9	-2.2	-1.3	-4.8	2.9	-22.6	-3.6	-6.9	2.5	-0.1	9.6	-19.1
STD ERROR	3.6	4.1	3.2	3.8	2.1	2.1	6.5	8.7	4.4	6.7	3.8	3.8	4.3	0.8	5.3	11.5	3.8	4.4	3.6	3.7	8.6
EXER: R416 NATL % 55.3	The egg of the human female is released about 14 days after menstruation begins.																				
UNADJ EFFECT	2.6	-6.0	-2.6	4.7	-6.6	6.2	-15.2	-23.0	12.0	-13.5	5.5	1.1	-2.9	5.8	-34.0	-34.6	-18.8	1.8	-0.1	18.7	-35.7
STD ERROR	2.9	3.5	3.1	3.3	1.9	1.8	6.4	5.1	4.9	8.2	3.3	4.1	4.7	1.1	4.5	8.6	3.7	4.9	3.8	3.3	7.5
BAL EFFECT	2.1	-1.4	-4.8	4.4	-7.2	6.6	-9.8	-7.1	5.0	-6.8	2.8	2.0	-3.3	4.6	-25.3	-33.4	-9.1	3.0	-3.9	15.5	-28.9
STD ERROR	2.7	3.3	3.2	3.6	1.8	1.7	5.4	6.6	4.2	7.8	3.3	3.6	4.6	1.3	4.8	14.5	3.7	4.7	3.4	3.3	9.0
EXER: R417 NATL % 54.5	Recognize that outlawing the use of insecticides does not help to increase the total amount of food available to the human race.																				
UNADJ EFFECT	6.8	-3.5	-4.4	0.1	5.3	-4.8	-7.5	-32.0	17.2	-10.8	3.1	-3.9	3.3	5.3	-32.6	-38.8	-12.6	-3.5	1.0	18.4	-22.9
STD ERROR	4.5	7.9	3.9	4.8	1.9	1.8	7.1	6.0	5.4	7.7	4.8	4.5	4.1	0.9	5.6	6.6	3.9	3.6	3.8	2.9	7.9
BAL EFFECT	4.8	0.9	-4.2	-1.3	5.5	-4.9	-5.0	-15.0	9.4	-5.9	2.1	-4.4	3.4	3.8	-22.1	-30.6	-9.0	-0.9	0.0	13.2	-17.6
STD ERROR	3.3	8.5	3.6	4.0	1.9	1.7	6.1	7.4	5.1	7.5	5.0	4.6	4.9	1.0	7.1	9.3	3.5	3.6	3.3	3.0	8.3
EXER: R418 NATL % 51.5	The longer a rock falls, the greater is its speed.																				
UNADJ EFFECT	0.7	-2.0	0.0	0.7	-10.9	10.3	9.2	-1.9	-7.6	13.7	0.0	3.1	-6.4	-0.9	6.1	3.0	11.0	-17.1	-2.5	-1.2	5.4
STD ERROR	3.9	4.0	4.0	5.2	2.1	2.1	7.5	7.8	5.2	6.4	5.4	4.0	5.4	1.0	7.3	8.2	3.0	4.4	4.3	4.0	10.7
BAL EFFECT	-0.1	-3.6	0.7	2.3	-11.2	10.3	11.7	-8.0	-4.0	14.1	1.3	-0.5	-5.8	-0.2	4.3	-8.3	11.5	-17.5	-2.9	-1.2	6.1
STD ERROR	3.5	4.4	3.7	5.2	2.2	2.2	7.8	7.5	4.9	7.3	5.3	3.7	5.1	1.0	7.7	8.9	3.1	4.3	4.2	3.8	10.4
EXER: R419 NATL % 49.1	In hot water the molecules are moving faster than in cold water.																				
UNADJ EFFECT	8.5	-7.6	-1.1	2.4	8.6	-8.0	-12.9	-5.9	14.7	-14.0	0.8	3.6	-3.1	4.4	-28.2	-20.2	-15.2	-5.7	3.0	25.1	-28.4
STD ERROR	3.7	4.3	3.4	4.4	2.4	2.3	6.6	6.1	5.6	8.2	3.8	5.0	3.8	0.9	4.1	9.8	3.3	5.0	4.2	3.0	6.8
BAL EFFECT	2.5	-3.2	-0.2	-0.1	8.2	-7.6	-8.6	4.2	5.3	-9.5	-2.2	3.3	0.7	2.9	-18.7	-12.6	-11.8	-6.0	1.0	22.3	-23.7
STD ERROR	2.8	4.1	3.1	4.0	2.4	2.1	5.8	6.1	5.4	6.6	3.8	4.1	3.8	0.9	5.0	8.5	3.3	5.0	4.2	3.3	7.7

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EXER: R420  NATL % 44.2    The function of the placenta in the pregnant human female is to carry nourishment to the baby.

UNADJ EFFECT     13.1  -10.5   -5.9    1.5  -12.9   12.0  -10.6   -9.7   17.0    0.1    1.1   -0.9   -7.2   -0.0   -9.0   26.3   -8.2    9.5   -5.5   13.2  -27.0
STD ERROR         4.0    3.6    3.4    4.2    2.3    2.0    7.8    7.5    7.8    6.9    4.0    5.1    3.2    0.8    5.2    7.9    2.7    4.8    3.6    4.1    6.1
BAL   EFFECT     10.4   -5.7   -5.2   -0.2  -12.8   11.9   -7.1   -0.4    7.3    0.1    0.8   -1.4   -3.0   -0.6   -4.6   27.3  -10.2    9.7   -2.5   11.3  -22.8
STD ERROR         3.4    3.6    3.2    4.3    1.9    1.8    6.9    7.9    6.9    5.3    3.8    4.7    3.1    0.9    5.8   11.2    2.6    4.7    3.5    3.6    5.1

EXER: R421  NATL % 45.1    If a light eater has a tendency to be overweight, it is most likely due to highly efficient utilization of food by the
                           body.

UNADJ EFFECT     -3.7   -1.7   -1.7    9.3    7.0   -6.4    1.1   -1.3   -6.8   13.3   -1.8    6.3   -5.3    0.6   -5.2    0.4   -1.8   -3.4    3.4    4.6  -18.8
STD ERROR         4.7    4.3    3.2    4.6    2.3    2.0    6.0    6.2    8.7    7.8    4.3    4.1    3.5    0.6    4.9   11.9    3.7    4.3    4.3    4.8    6.7
BAL   EFFECT     -3.4    0.6   -2.1    7.6    7.2   -6.6    0.9    2.3  -12.0   12.9   -0.7    8.0   -4.9    0.3   -2.5   -0.9   -1.9   -3.9    2.7    5.8  -19.9
STD ERROR         4.3    3.9    2.9    4.8    2.0    1.8    5.9    6.2    7.3    7.9    4.2    4.2    3.3    0.7    5.4   11.7    3.4    4.4    4.5    4.6    6.3

EXER: R422  NATL % 42.0    Most caves are formed by the action of underground water on limestone.

UNADJ EFFECT     -0.0  -16.0    5.1    4.7    9.6   -8.8   -3.0  -11.7    8.2   -4.8    0.6   -2.2    1.9    1.9  -10.1  -28.3   -8.6   -9.4    8.0   11.6  -24.8
STD ERROR         4.7    4.1    3.6    4.7    2.6    2.5    7.1    5.2    5.3    5.6    4.9    4.0    4.6    0.8    6.2    7.2    3.9    5.4    4.0    3.0    5.9
BAL   EFFECT      0.6  -13.4    4.8    2.3    8.6   -7.9   -1.1   -5.7    1.0   -5.0   -0.3    0.3    4.6    0.3    1.6  -21.8   -5.1  -10.5    6.4   10.3  -23.7
STD ERROR         4.6    4.7    3.2    4.6    2.8    2.7    6.3    5.9    6.4    6.8    4.4    3.8    4.6    0.9    6.5    7.9    4.5    5.4    3.7    3.8    6.4

EXER: R423  NATL % 41.9    The system of classifying plants and animals that is most commonly used in the biological sciences is based on
                           structure.

UNADJ EFFECT      2.5  -17.3   -0.4   10.4    9.7   -8.9  -11.1  -12.8   21.7   -0.7  -12.1    1.8    3.2    1.4  -12.2    2.1  -15.1   -5.0   -2.5   21.1  -14.1
STD ERROR         4.9    4.1    4.5    5.8    3.1    3.2    6.7    7.5    5.6    5.8    4.7    5.1    4.5    0.8    6.1   11.7    3.5    4.0    3.8    2.9    5.5
BAL   EFFECT      1.3  -13.3    2.5    4.6    7.7   -7.0   -9.7   -4.9   10.9   -2.1  -11.8    4.0    8.6   -0.2   -1.0   11.4  -12.6   -4.4   -1.1   17.4  -14.3
STD ERROR         3.5    3.7    3.5    4.7    2.5    2.5    5.6    8.3    4.4    5.9    4.2    4.4    4.1    0.8    5.8   12.0    3.4    3.3    3.0    3.0    4.9

EXER: R424  NATL % 40.2    Bacteria do not play a key role in photosynthesis.

UNADJ EFFECT      5.0   -2.0   -0.2   -4.3    0.5   -0.4    3.1  -12.6   27.8   -6.6   -4.5   -6.8    0.4    2.3  -14.5  -12.3   -9.1   -9.8    1.4   16.9  -14.9
STD ERROR         5.3    4.9    3.2    4.0    2.4    2.3    7.1    8.3    5.7    4.7    3.7    4.5    4.5    0.9    6.0   15.4    4.6    4.2    4.3    3.8   10.7
BAL   EFFECT      4.9    3.4   -0.6   -8.2    1.2   -1.1    4.6   -4.4   23.7   -2.3   -7.2   -5.7    0.7    1.9   -9.9  -14.8   -5.5   -9.1    0.1   13.8  -13.1
STD ERROR         4.4    5.3    3.0    3.9    2.5    2.3    6.9    8.5    5.9    4.4    4.0    4.8    4.8    0.9    6.8   10.5    5.0    4.2    4.7    4.1   10.9

EXER: R425  NATL % 38.9    The presence of an ocean fish fossil on a mountain outcrop is best explained by the hypothesis that the mountain was
                           raised up after the fish had died.

UNADJ EFFECT     -2.7   -1.5   -2.6   10.0    6.1   -5.8  -16.7  -16.9    5.3    1.8    6.1    5.9  -10.0    3.1  -23.3   -5.4  -14.6    0.2    2.2   13.2   -5.6
STD ERROR         3.2    3.8    3.1    4.1    2.1    2.0    6.5    7.7    5.1    7.3    4.4    3.4    3.4    0.7    5.5   12.3    3.3    4.9    5.1    5.0    9.0
BAL   EFFECT     -2.8    2.1   -5.1    8.9    7.4   -6.8  -16.0   -3.6   -1.2    2.2    5.3    6.2   -7.0    2.2  -19.1    4.5  -11.6   -0.5    0.9   11.7   -4.6
STD ERROR         3.2    3.8    3.1    4.5    1.9    1.8    6.5    7.3    5.0    7.5    4.4    3.1    3.6    0.8    5.7   10.0    3.4    4.6    4.8    5.1    8.1

EXER: R426  NATL % 36.1    The solid, liquid, and gaseous states of water differ in the average speed with which their molecules are moving.

UNADJ EFFECT     -1.3   -5.0    5.7   -2.6    7.6   -6.4   -8.9   -0.1   22.5  -18.0    2.8    5.4  -13.2    1.5   -9.3    5.8  -16.5   -0.8    0.9   20.6   -5.5
STD ERROR         4.1    4.1    3.3    4.6    2.8    2.4    7.4    7.9    6.0    9.2    4.5    3.9    3.8    1.0    5.3   13.5    2.6    4.6    5.0    4.1   12.6
BAL   EFFECT     -0.6   -3.6    5.8   -5.8    8.6   -7.2   -9.7    5.8   16.2  -16.9   -0.8    6.2   -9.2    0.5   -3.7    6.6  -13.3   -2.1   -1.4   19.1   -1.4
STD ERROR         3.6    3.6    3.2    4.4    2.4    2.0    5.9    7.0    5.8    9.8    4.4    3.4    3.2    0.9    4.9    8.9    2.5    4.7    4.9    4.0   12.4
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN

EXER: N427 NATL % 35.4 In mammals the cerebrum is the center of memory and intelligence.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	2.0	-1.6	-3.0	2.4	1.3	-1.2	-3.6	-4.8	15.9	-11.3	-0.6	-3.5	-4.2	2.8	-23.1	1.6	-9.4	-8.9	2.1	13.7	-12.8
STD ERROR	3.6	4.3	3.6	4.1	2.3	2.1	6.9	6.7	4.9	4.8	3.8	3.5	3.7	0.9	3.8	14.5	3.0	4.9	3.4	3.4	8.3
BAL EFFECT	1.6	2.9	-3.6	0.0	0.8	-0.8	-2.3	6.5	9.5	-6.9	-1.2	-2.5	-4.4	2.4	-19.6	-0.2	-5.9	-8.2	1.1	10.4	-8.8
STD ERROR	3.8	4.4	3.6	4.6	2.4	2.3	7.0	7.4	5.4	4.7	3.9	3.1	3.6	0.8	3.9	11.0	3.3	4.8	3.6	3.4	7.5

EXER: N428 NATL % 30.6 Recognize that if a man whose blood type is OA marries a woman whose blood type is OB, their offspring could not have AA blood type.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-0.3	0.3	2.7	-3.9	5.3	-4.7	2.2	-1.7	0.8	-4.5	1.8	-2.5	1.3	1.1	-3.2	-17.9	-8.2	-5.7	5.9	5.1	2.5
STD ERROR	3.6	3.6	3.6	3.9	2.0	1.8	5.7	5.9	6.6	6.4	3.7	3.6	3.9	0.8	5.6	7.5	3.0	4.6	3.8	4.3	9.2
BAL EFFECT	-0.0	1.3	1.7	-3.7	5.0	-4.6	3.9	3.8	-2.0	-3.4	0.5	-1.2	1.1	0.6	-1.1	-13.3	-8.0	-6.4	5.8	5.6	2.1
STD ERROR	3.6	4.3	3.6	4.2	2.0	1.8	5.1	7.1	6.3	7.2	4.1	3.9	4.0	0.9	6.5	8.9	3.0	4.4	3.7	3.9	8.6

EXER: N429 NATL % 25.8 A table showing relations among all the chemical elements is called the periodic table.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	2.9	-11.6	-2.1	8.4	8.8	-8.0	-11.5	-3.8	26.6	0.2	-8.7	-0.1	-10.7	1.4	-7.8	-9.3	-13.8	1.6	-4.6	20.1	-19.7
STD ERROR	4.0	3.6	3.7	5.1	2.0	2.0	4.6	6.3	6.3	5.8	3.3	4.8	3.4	0.7	5.2	4.3	3.0	4.3	3.5	4.5	6.1
BAL EFFECT	1.2	-7.6	-0.9	5.9	7.4	-6.9	-10.0	3.6	17.0	0.1	-7.3	1.8	-7.8	0.9	-1.6	-15.6	-8.3	0.6	-4.8	15.4	-18.8
STD ERROR	3.0	2.8	3.1	3.8	1.9	1.8	3.6	7.5	5.3	6.4	3.0	4.4	3.1	1.0	6.5	7.6	2.5	4.0	3.1	3.7	5.4

EXER: N430 NATL % 22.3 If [illegible] light waves are travelling in a vacuum the wave with the higher frequency has the shorter wavelength.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-0.3	-3.9	1.3	1.9	11.8	-10.8	-9.5	-2.4	13.3	-3.1	-4.8	3.0	-6.1	1.4	-12.3	2.9	-8.5	-2.8	3.4	10.0	-13.2
STD ERROR	2.6	2.8	2.8	3.4	1.9	2.1	3.9	6.0	4.4	6.1	2.9	2.7	2.5	0.5	3.9	11.4	2.5	1.7	4.2	2.7	5.2
BAL EFFECT	-0.4	-0.7	-0.3	1.5	11.8	-10.8	-10.9	7.6	7.1	-1.1	-4.4	3.2	-3.6	1.0	-10.1	6.8	-8.0	-2.7	2.7	9.5	-11.0
STD ERROR	2.3	3.1	2.3	3.0	1.9	2.1	4.5	5.4	4.2	5.8	3.0	2.7	2.5	0.6	4.0	8.9	2.8	3.8	3.9	2.9	5.0

EXER: N431 NATL % 21.2 If the cells referred to were all in the same organism, the amount of DNA present would be identical in mature egg and sperm cells.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	1.0	2.9	-3.3	0.5	0.2	-0.2	-1.1	-13.5	9.8	1.1	-2.5	5.3	-8.6	1.2	-4.2	-8.9	-5.4	-5.4	-4.3	13.4	-2.9
STD ERROR	2.6	4.1	2.5	4.0	2.0	1.8	6.4	2.9	4.5	4.3	3.2	4.0	2.4	0.8	5.4	5.5	3.3	4.3	2.6	3.6	6.3
BAL EFFECT	0.3	4.9	-2.9	-1.0	0.7	-0.7	0.3	-10.0	8.0	1.4	-1.7	4.2	-8.6	0.6	-0.8	-6.7	-1.4	-4.8	-4.8	11.7	-3.6
STD ERROR	2.4	3.8	2.4	3.8	1.8	1.6	6.8	4.2	4.3	3.6	3.1	3.6	2.9	0.8	5.4	5.8	3.1	4.2	2.6	3.6	5.8

EXER: N432 NATL % 16.0 Given that the atomic weight of Titanium is 48, then the average mass of Titanium atoms is about 4 times the mass of a carbon isotope of atomic mass 12.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-0.1	-0.4	1.3	-1.8	7.3	-6.2	-11.7	2.0	9.5	-6.1	3.3	0.8	-3.9	-0.1	-0.4	4.1	-8.0	-1.9	-0.8	14.1	-16.0
STD ERROR	3.3	4.6	3.2	4.0	2.1	1.8	2.9	6.8	7.6	5.3	5.5	3.3	3.3	0.9	4.6	14.3	2.3	3.7	2.8	4.5	2.3
BAL EFFECT	0.1	0.1	1.6	-3.5	8.0	-6.8	-12.3	4.1	4.7	-6.1	2.7	1.4	-1.5	-0.7	2.9	7.0	-7.4	-2.6	-2.1	14.8	-14.7
STD ERROR	3.4	4.4	2.9	4.2	2.0	1.7	2.9	7.4	6.7	5.9	4.8	3.0	3.4	1.0	5.1	10.3	2.3	3.8	2.9	4.1	3.0

EXER: N433 NATL % 15.1 The age of certain rocks and their fossils is determined by measuring the amounts of uranium and lead they contain.

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-0.6	-7.5	-1.8	9.9	6.9	-6.5	-10.6	5.3	6.9	3.6	5.9	-6.6	-7.2	-0.4	5.3	-6.3	-9.1	1.7	3.8	6.5	-9.9
STD ERROR	2.9	2.7	3.0	4.5	1.8	1.8	2.8	6.9	5.2	5.2	3.6	2.8	2.6	0.7	4.7	5.8	2.3	4.1	3.1	3.9	3.3
BAL EFFECT	-0.1	-3.4	-3.2	8.1	6.0	-5.6	-8.6	0.5	2.8	0.4	6.2	-4.7	-3.9	-0.9	9.9	-6.2	-7.2	1.3	3.7	5.0	-10.4
STD ERROR	2.5	3.0	2.5	4.1	1.5	1.5	3.0	7.5	4.3	4.9	3.2	2.4	2.4	0.7	4.6	6.2	2.1	3.8	3.2	3.1	3.4

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ITEM: R434  NATL %  3.0    Uranium-lead dating has been used to obtain accurate estimates of the age of the oldest known rock strata.

UNADJ EFFECT     -0.5   1.0   -0.1  -0.1    0.8  -0.7   -1.3  -1.6  -0.8   5.4  -0.9   0.5   0.4   -0.4   2.3   1.6    0.9   0.5  -1.3    0.4  -3.0
STD ERROR         1.0   1.3    1.1   1.3    0.7   0.6    1.3   1.5   1.5   4.4   1.0   1.3   1.6    0.3   2.0   3.3    1.3   1.3   0.9    1.1   0.7
BAL   EFFECT     -0.7   0.8    0.4  -0.2    0.9  -0.8   -1.0  -2.0  -0.9   5.4  -0.9   0.8   0.2   -0.3   2.1   0.7    0.6   0.3  -1.0    0.8  -2.2
STD ERROR         1.1   1.2    1.0   1.2    0.8   0.7    1.3   1.6   1.4   4.5   1.0   1.4   1.6    0.4   2.3   3.7    1.3   1.3   0.9    1.2   1.0

OBJECTIVE:   Possess the abilities and skills needed to engage in the processes of science.

ITEM: R435  NATL % 94.8    Recognize vaccination as the reason that so few people get smallpox.

UNADJ EFFECT     -0.3  -4.1    1.2   2.3   -0.6   0.5   -6.0  -4.5   4.1  -7.4   2.2   1.1  -2.3    2.4 -15.1 -12.2   -4.9   2.1   3.2    2.8 -17.8
STD ERROR         1.3   1.5    1.1   0.9    0.9   0.8    3.6   2.5   1.2   3.9   1.5   1.0   1.5    0.5   3.1   6.1    1.5   1.3   1.0    1.2   9.8
BAL   EFFECT     -0.2  -1.9   -0.1   1.9   -0.7   0.7   -5.3   2.5   2.7  -4.1   0.6   1.3  -2.8    2.1 -12.3 -11.8   -2.1   2.4   1.5    1.4 -18.2
STD ERROR         1.2   1.6    0.9   1.0    0.9   0.8    2.9   3.3   1.2   4.6   1.3   1.2   1.5    0.6   4.1   4.9    1.5   1.3   1.0    1.3  10.3

ITEM: R436  NATL % 94.0    Wind or sun are the most likely causes that paint on one side of a house does not last as long as paint on the other
                           sides.

UNADJ EFFECT     -1.1  -1.1    0.5   1.5    1.4  -1.3   -7.6 -11.8   0.7  -5.4   4.2   2.3  -0.2    1.6 -12.8   0.5   -4.1  -0.3   4.2    2.9 -13.7
STD ERROR         1.3   1.5    1.3   1.5    1.1   1.0    4.3   4.7   2.8   2.4   1.4   1.1   1.3    0.5   3.4   2.8    1.5   1.9   1.1    1.5   9.8
BAL   EFFECT     -1.3   0.1    0.1   1.4    1.3  -1.1   -7.6  -5.4  -0.8  -3.8   2.8   2.6  -0.1    1.1  -9.8   1.9   -3.1   0.0   3.5    2.2 -12.7
STD ERROR         1.2   1.4    1.1   1.4    1.0   0.9    3.9   4.4   2.7   2.4   1.3   1.2   1.3    0.4   3.1   3.0    1.2   1.7   1.1    1.7  10.0

ITEM: R437  NATL % 88.7    Read a bar graph and determine the average number of heartbeats per minute for a person swimming.

UNADJ EFFECT     -0.8  -3.1    0.1   1.4    2.1  -1.9   -0.5 -18.6   0.8  -0.8   2.6   2.1   0.7    3.1 -18.5 -19.8   -7.2   1.7   6.2    6.2 -25.8
STD ERROR         2.5   2.8    1.9   1.6    1.5   1.4    3.9   5.2   3.6   4.0   2.2   2.8   2.1    0.8   4.2  16.8    2.5   3.0   2.0    2.0   8.0
BAL   EFFECT      0.4  -2.2   -2.2   4.4    2.4  -2.2    0.2  -8.3  -3.4   0.6   1.1   2.3   2.9    2.1 -12.3 -13.4   -5.5   1.9   5.3    4.8 -23.5
STD ERROR         2.1   2.6    1.8   1.9    1.4   1.3    3.7   4.7   3.1   4.2   2.0   2.8   2.3    0.8   3.9  15.6    2.1   3.1   1.9    2.2   7.8

ITEM: R438  NATL % 72.7    Operate a beam balance.

UNADJ EFFECT     -6.3  -1.6    4.3   3.5   11.7 -10.8    3.3  -7.6   6.6  -7.0  -4.0   2.5   4.3    2.7 -15.0 -16.9   -4.6   2.6   7.4    1.1 -27.7
STD ERROR         6.5   7.8    6.9   7.5    3.9   3.8    6.0  16.8  22.9   8.5  10.4   9.0   9.4    1.5   9.5  21.6    6.0   9.6   5.2    5.8  20.4
BAL   EFFECT     -4.2  -5.2    5.6   1.4   12.8 -11.8    7.2  -6.0  -5.3  -5.8 -10.0   5.2   3.8    2.5 -12.8 -23.3   -4.5   3.1   4.9    2.5 -22.3
STD ERROR         6.1  10.6    7.8  10.3    3.8   3.6    6.7  15.1  19.6  10.1  11.6   9.2  10.1    1.3   8.3  20.0    5.4   9.8   5.9    6.4  29.3

ITEM: R439  NATL % 62.7    Given data from four weight experiments, determine which one provides strongest evidence that one object is heavier
                           than another.

UNADJ EFFECT     -2.3  -6.5    3.1   3.4    6.7  -6.3    5.8  -2.7  -1.4  -4.9   6.6  -8.8   2.9    3.0 -17.5 -19.3   -7.9  -2.0   5.4    7.6 -17.5
STD ERROR         4.1   4.1    2.8   3.8    2.2   2.0    6.5   7.3   6.2   5.9   3.4   4.0   3.4    0.9   5.6  14.1    3.2   4.4   3.2    4.1  11.1
BAL   EFFECT     -0.1  -3.5    0.1   2.8    5.8  -5.4    6.3   5.1  -5.3  -2.0   3.6  -7.7   4.8    2.4 -13.7 -17.0   -5.3  -2.2   4.0    6.3 -16.4
STD ERROR         4.4   4.1    2.8   3.9    2.3   2.1    6.3   8.4   6.3   6.3   3.6   4.0   3.4    1.1   6.3  14.0    3.3   4.2   3.3    3.9  11.3

ITEM: R440  NATL % 51.3    Given the natural balance between hawks, rabbits and grass in a meadow, a decrease in the number of rabbits also
                           affects the number of hawks and the amount of grass.

UNADJ EFFECT      5.4 -11.3   -5.3   9.8    7.7  -6.9  -11.1 -28.9  31.4   0.5  -2.7  -6.3  -5.9    4.0 -30.7  -8.6  -12.4 -17.9   9.2   19.2 -23.2
STD ERROR         5.0   4.9    3.8   5.2    2.2   2.1    8.2   7.5   3.4   7.8   3.3   4.4   4.5    0.9   4.9  16.6    4.3   5.6   4.4    2.8   8.0
BAL   EFFECT      2.9  -3.3   -4.2   4.8    6.6  -5.9   -8.5 -13.5  21.3  -0.2  -2.6  -4.7  -3.5    2.5 -18.3  -6.5   -8.7 -13.9   8.1   12.9 -17.3
STD ERROR         3.6   5.2    3.1   3.9    2.3   2.2    7.0   7.1   4.3   6.3   3.3   3.7   4.5    0.8   5.3  14.1    3.9   5.2   3.8    2.9   7.3
```

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME APP SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: R441 NATL % 48.2 Time 10 swings of a pendulum.																					
UNADJ EFFECT	-15.6	-4.7	9.0	3.5	-5.6	5.4	-9.7	-48.2	31.9	-6.3	15.6	17.2	-11.4	4.0	-23.9	6.2	-6.8	4.3	5.4	6.9	-24.4
STD ERROR	7.9	6.6	4.4	6.2	3.7	3.5	5.2	3.6	9.3	9.5	10.5	10.9	8.8	1.6	7.5	36.5	5.0	7.0	7.7	8.6	10.7
BAL EFFECT	-17.8	4.5	4.4	6.0	-5.0	4.8	-11.5	-39.3	29.0	-1.9	14.1	16.0	-10.9	3.9	-23.0	1.8	0.8	2.9	1.4	-1.5	-22.3
STD ERROR	10.0	7.8	4.9	7.1	3.6	3.4	5.5	11.6	8.4	14.0	9.1	10.6	9.4	2.3	11.3	30.8	5.4	5.7	6.0	8.5	10.3
EXER: R442 NATL % 38.8 Select the best line graph showing average normal height increases in children as a function of their age.																					
UNADJ EFFECT	2.1	-3.9	-4.5	7.2	0.9	-0.6	2.5	-5.9	-1.6	-7.4	-1.9	5.9	1.6	2.4	-11.4	-27.2	-9.3	-2.1	8.3	6.3	-18.1
STD ERROR	4.0	3.3	3.0	4.3	2.4	2.2	5.8	7.5	5.2	5.8	4.0	4.5	3.6	1.0	8.4	4.8	3.0	5.3	4.3	3.6	6.0
BAL EFFECT	3.3	-5.4	-6.2	9.3	1.1	-1.0	6.4	6.3	-8.9	-7.4	-4.6	8.2	3.4	2.3	-10.3	-26.8	-9.3	-2.9	8.5	6.4	-17.7
STD ERROR	3.8	3.6	2.9	3.9	2.2	2.0	5.8	7.8	5.4	6.2	3.4	4.3	3.3	1.0	7.9	5.8	3.3	5.1	4.2	3.6	6.7
EXER: R443 NATL % 24.9 Realize that atoms are rarely destroyed so that carbon atoms in a piece of bread could have been part of a dinosaur's body in ages past.																					
UNADJ EFFECT	-2.1	-1.6	1.1	2.4	10.1	-8.9	-4.5	-0.6	15.3	1.9	-2.6	-3.4	-6.0	2.4	-10.1	-21.0	-9.4	-6.4	5.9	10.7	-16.6
STD ERROR	3.8	5.3	3.7	4.0	2.4	2.1	5.0	5.1	6.9	7.0	3.8	4.6	3.9	0.6	4.8	3.6	2.6	3.9	3.6	3.8	5.3
BAL EFFECT	-4.0	0.8	1.8	2.0	9.1	-8.1	-1.6	8.4	9.2	9.6	-5.9	-1.5	-5.2	2.4	-9.4	-22.7	-6.3	-3.9	4.9	7.3	-17.8
STD ERROR	3.3	4.9	3.6	4.0	2.3	2.0	5.4	5.3	6.3	7.3	3.7	4.0	4.0	0.7	5.2	7.7	2.4	3.5	3.3	3.4	5.1
EXER: R444 NATL % 24.5 Doubling the linear dimensions of a cube will increase the volume eight times.																					
UNADJ EFFECT	9.7	-5.2	-5.0	-1.7	7.8	-7.1	-12.1	-10.9	9.0	3.6	2.8	-1.1	-4.3	1.3	-6.1	-15.5	-9.3	-4.0	8.2	5.4	-8.9
STD ERROR	4.0	4.0	3.1	5.6	2.0	2.0	4.7	5.4	4.9	6.4	3.9	4.0	3.6	0.7	5.5	4.7	3.1	4.3	4.2	4.2	5.9
BAL EFFECT	9.2	-2.6	-5.4	-2.8	7.6	-7.0	-9.2	-3.1	3.8	1.1	1.6	0.8	-3.1	0.7	-3.2	-7.7	-7.7	-4.1	8.4	3.8	-9.9
STD ERROR	3.7	4.2	3.3	4.9	1.9	1.9	4.5	6.9	4.7	7.0	3.3	3.7	3.5	0.9	6.7	6.0	3.1	4.3	3.8	3.8	5.9
EXER: R445 NATL % 11.4 Determine the density of a wood block using a beam balance.																					
UNADJ EFFECT	0.1	0.3	6.5	-10.0	4.2	-3.9	-3.7	-11.4	-11.4	-0.9	8.0	6.7	-9.0	1.8	-9.9	-11.4	-8.6	-6.3	6.6	4.2	13.5
STD ERROR	4.1	4.5	4.5	2.9	2.8	2.7	3.4	2.6	2.6	5.1	6.8	4.0	3.2	0.7	2.9	2.6	2.8	4.3	6.0	4.3	18.8
BAL EFFECT	1.4	2.7	5.8	-10.2	5.3	-4.9	-4.3	-5.9	-9.6	2.6	-0.4	10.7	-8.0	2.4	-8.2	-4.9	-5.5	-9.0	5.0	3.4	15.5
STD ERROR	3.9	4.9	4.2	4.4	2.5	2.3	3.9	7.0	10.5	5.5	7.1	4.3	4.6	1.1	6.2	8.2	2.7	4.9	5.6	4.1	18.4
OBJECTIVE: Understand the investigative nature of science.																					
EXER: R446 NATL % 56.9 Recognize that repeated measures of the same object will usually yield similar results but not exactly the same.																					
UNADJ EFFECT	3.2	0.7	-0.9	-3.4	6.1	-5.6	-9.5	-28.4	19.7	-17.0	-1.6	-0.2	2.3	2.8	-23.7	1.6	-7.2	1.1	2.0	10.9	-28.5
STD ERROR	4.2	4.2	3.1	5.1	2.5	2.3	7.5	6.1	4.2	7.3	4.2	4.2	3.8	0.8	5.3	7.1	3.6	4.3	3.7	3.5	6.2
BAL EFFECT	2.4	3.7	-2.2	-3.2	5.5	-5.0	-10.2	-16.9	14.6	-14.1	-1.8	-0.3	3.1	1.4	-13.7	6.5	-6.4	3.8	0.6	8.2	-22.0
STD ERROR	3.2	4.2	2.9	4.0	2.4	2.1	7.0	7.5	4.3	7.1	4.2	4.3	3.8	0.9	5.8	7.5	3.6	3.8	3.6	3.3	6.6
EXER: R447 NATL % 43.3 Select "A possible explanation for observations" as the statement most likely to be called a theory.																					
UNADJ EFFECT	-5.4	-7.4	5.6	7.0	4.0	-3.4	-6.0	-23.7	24.8	-4.3	15.2	-3.3	-12.4	5.5	-10.6	-0.6	-17.2	-7.2	10.2	19.3	-17.1
STD ERROR	4.0	5.3	3.1	3.8	2.9	2.5	6.0	4.8	4.8	10.9	6.8	4.1	4.0	1.0	3.3	13.9	3.4	5.0	4.4	4.4	9.6
BAL EFFECT	-6.6	-1.3	2.9	6.4	4.0	-3.4	-7.3	-9.9	16.4	-1.4	10.7	-2.1	-10.7	3.8	-20.9	-1.6	-10.8	-5.9	3.8	15.2	-7.9
STD ERROR	3.4	4.8	3.1	3.9	2.6	2.2	6.6	5.4	4.5	10.3	7.1	3.8	3.8	1.0	8.4	11.3	3.1	4.6	4.2	3.8	9.4

OBJECTIVE: Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.

EXER: R448 NATL % 74.9 Recognize that United States scientists are not ahead of scientists in other countries in every field of research.

UNADJ EFFECT	1.8	-8.8	-1.3	6.0	2.8	-2.6	1.7	-9.3	17.5	-4.8	-2.3	-5.4	-2.6	2.1	-15.8	-7.5	-6.9	2.7	-2.6	13.6	-35.6
STD ERROR	2.2	4.7	2.8	3.1	1.9	1.8	4.9	5.5	2.5	6.1	4.1	3.3	2.9	0.7	5.4	11.1	3.2	3.7	3.6	2.6	8.9
BAL EFFECT	1.9	-5.1	-0.8	2.4	1.5	-1.4	2.0	-3.1	11.1	-5.4	-2.6	-3.3	-0.2	1.2	-9.1	-2.8	-4.1	3.6	-2.2	9.7	-32.3
STD ERROR	2.1	3.7	2.7	2.8	1.8	1.7	4.7	5.2	3.1	6.3	3.5	3.9	2.9	0.7	4.8	13.0	3.0	4.0	3.4	3.0	9.2

EXER: R449 NATL % 28.4 Frequency of watching special television shows dealing with a scientific topic.

UNADJ EFFECT	-3.0	-3.3	3.5	1.9	1.5	-1.2	-9.4	-3.0	3.7	-20.0	6.3	4.3	-0.1	2.5	-12.0	-11.2	-4.3	1.1	0.7	4.9	-7.9
STD ERROR	3.8	4.1	2.5	4.2	2.5	2.1	4.2	8.3	8.4	4.1	4.3	3.2	3.6	0.9	4.9	9.5	2.5	5.3	3.8	3.7	10.2
BAL EFFECT	-1.9	-3.1	1.8	3.6	1.7	-1.4	-9.6	2.3	1.9	-19.5	4.5	4.4	0.4	2.0	-9.0	-13.5	-2.0	-0.3	-1.3	4.5	-4.8
STD ERROR	3.7	4.2	2.6	4.6	2.2	1.9	4.5	8.3	8.4	4.4	4.6	3.3	3.6	1.0	4.9	11.2	2.4	5.4	3.8	3.6	9.6

OBJECTIVE: Know the fundamental facts and principles of science.

EXER: U901 NATL % 97.1 (Text for this exercise was not released)

UNADJ EFFECT	-0.3	-0.8	1.6	-1.3	-0.4	0.7	-1.4	-6.3	2.6	-3.4	0.9	0.6	-0.1	1.2	-4.3	-18.4	-2.3	1.4	2.4	1.9	-12.3
STD ERROR	1.0	1.2	0.7	1.1	0.6	0.6	1.8	3.5	0.7	3.6	0.9	0.9	1.2	0.4	2.4	7.0	1.0	1.3	0.6	0.7	5.1
BAL EFFECT	-0.4	-0.7	1.3	-0.7	-0.8	0.7	-0.7	-2.7	1.4	-1.1	0.2	0.4	-0.2	0.9	-2.9	-16.0	-1.1	0.9	1.7	1.3	-11.3
STD ERROR	0.9	1.0	0.6	1.2	0.6	0.5	2.0	3.3	0.6	2.5	0.8	0.8	1.0	0.3	2.0	6.8	0.9	1.2	0.6	0.7	5.1

EXER: U902 NATL % 95.8 (Text for this exercise was not released)

UNADJ EFFECT	0.1	-2.7	1.0	0.8	1.2	-0.8	0.9	-4.1	4.0	-2.8	0.3	-0.1	-1.9	0.9	-1.6	-18.3	-0.8	-2.1	0.7	2.4	-5.2
STD ERROR	1.4	2.4	1.6	1.5	0.9	0.8	1.9	3.2	1.0	3.8	1.9	2.0	1.9	0.5	3.5	7.0	1.5	3.7	1.4	1.1	3.9
BAL EFFECT	-0.4	-3.1	0.9	1.9	0.8	-0.8	2.0	-2.6	2.8	-1.5	-0.2	-0.2	-1.3	0.7	-0.1	-19.0	0.8	-2.9	0.0	1.7	-4.1
STD ERROR	1.4	2.3	1.4	1.7	1.0	0.9	1.9	3.9	0.8	2.9	1.8	1.9	2.0	0.5	3.9	7.0	1.3	3.6	1.5	1.0	4.2

EXER: U903 NATL % 91.2 (Text for this exercise was not released)

UNADJ EFFECT	-0.3	-0.4	-0.3	1.0	-0.3	0.3	2.1	-19.7	4.9	-2.1	1.1	4.3	-0.8	1.8	-9.3	-13.3	-2.4	2.2	1.0	3.6	-15.0
STD ERROR	2.1	2.2	2.4	2.0	1.1	1.0	2.9	6.3	2.1	3.8	2.4	2.2	2.3	0.8	5.6	7.8	1.9	2.8	2.2	2.1	8.0
BAL EFFECT	-1.3	0.0	0.1	1.4	-0.6	0.6	3.4	-16.9	3.7	-0.6	-0.5	4.8	-0.5	0.9	-4.0	-8.7	-1.8	2.9	0.6	2.1	-11.9
STD ERROR	1.9	2.3	2.4	2.0	1.1	1.0	3.1	6.3	2.5	4.0	2.1	2.2	2.3	0.8	5.6	7.7	1.7	2.3	2.1	2.0	7.0

EXER: U904 NATL % 88.1 (Text for this exercise was not released)

UNADJ EFFECT	1.3	-9.8	1.0	5.2	4.8	-4.2	-3.9	-10.0	8.5	1.8	-1.7	-3.4	1.9	2.8	-19.8	-8.3	-11.0	3.2	5.1	8.0	-29.2
STD ERROR	1.7	3.3	2.1	1.7	1.3	1.2	4.9	5.4	1.7	3.8	2.5	2.6	2.1	0.7	5.3	8.0	2.8	1.8	1.9	1.6	10.1
BAL EFFECT	1.1	-5.8	-0.4	3.8	4.0	-3.7	-3.1	0.6	2.3	4.8	-3.0	-1.8	3.3	2.1	-13.6	-8.8	-8.0	2.9	3.7	6.1	-24.6
STD ERROR	1.6	3.4	2.1	1.9	1.2	1.1	4.2	5.1	1.9	4.2	2.5	2.6	2.2	0.7	5.2	7.2	2.7	1.8	1.9	1.7	9.8

EXER: U905 NATL % 88.1 (Text for this exercise was not released)

UNADJ EFFECT	0.7	-6.5	3.8	-0.6	-4.7	4.3	-10.3	-22.4	4.6	-2.1	6.1	-1.0	0.8	4.7	-28.2	-30.1	-10.1	-0.9	4.7	10.5	-19.0
STD ERROR	2.3	3.6	1.8	2.4	1.4	1.3	3.7	7.0	2.6	4.3	1.8	3.4	2.6	0.9	4.9	17.1	3.2	3.1	2.0	1.4	7.2
BAL EFFECT	0.4	-3.2	2.5	-1.3	-4.6	4.3	-8.0	-7.6	1.9	0.9	1.3	-0.2	2.2	3.6	-22.3	-22.9	-6.0	0.5	2.2	6.8	-14.4
STD ERROR	2.1	3.1	1.8	2.3	1.2	1.2	3.6	7.3	2.8	4.3	1.9	3.0	2.8	0.9	5.3	15.1	2.8	3.0	2.0	1.2	6.5

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: U0906 NATL % 87.7 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.9	-4.8	3.2	1.2	6.0	-5.5	-0.4	-16.9	4.9	-0.8	3.0	-4.6	3.1	2.0	-13.9	-2.9	-4.6	-2.9	1.9	8.5	-20.2
STD ERROR	1.9	2.6	1.7	2.1	1.2	1.2	5.3	5.3	2.8	4.2	2.0	2.7	1.7	0.6	4.4	5.3	1.9	3.0	2.0	1.5	9.8
BAL EFFECT	-1.8	-2.2	3.0	0.3	6.1	-5.6	-0.1	-9.8	3.0	0.1	1.5	-4.4	4.0	1.1	-8.1	-1.7	-3.7	-1.8	0.4	7.9	-18.0
STD ERROR	1.9	2.7	1.6	2.1	1.2	1.2	4.9	5.7	2.6	4.7	1.9	2.6	1.9	0.7	4.7	5.9	1.8	2.9	1.9	1.7	9.5
EXER: U0907 NATL % 84.8 (Text for this exercise was not released)																					
UNADJ EFFECT	-1.2	-2.5	0.0	3.7	0.2	-0.2	-3.9	-16.4	9.0	-4.1	2.7	-2.7	-0.6	3.2	-18.8	-11.7	-6.6	2.9	6.4	3.9	-27.4
STD ERROR	2.3	2.9	2.1	2.6	1.6	1.5	4.8	4.4	2.9	4.2	2.4	3.1	3.8	0.7	4.4	7.5	2.4	2.4	2.0	2.2	9.3
BAL EFFECT	-2.8	0.3	-0.4	3.6	0.4	-0.3	-3.7	-5.8	6.8	-0.9	0.8	-2.4	-1.5	2.7	-15.4	-10.7	-3.9	3.6	5.1	1.7	-25.1
STD ERROR	2.5	3.1	2.3	2.2	1.6	1.5	5.1	5.0	2.6	4.7	2.4	3.2	3.9	0.7	4.5	7.1	2.4	2.4	2.0	2.2	10.1
EXER: U0908 NATL % 83.6 (Text for this exercise was not released)																					
UNADJ EFFECT	4.1	-9.0	1.2	1.5	7.3	-6.8	-16.5	-9.5	8.5	-5.2	7.3	-6.0	-0.5	2.4	-19.1	-0.4	-6.8	-3.4	4.9	11.3	-36.3
STD ERROR	2.0	3.7	1.8	2.3	1.4	1.3	5.3	4.4	2.8	3.6	2.0	2.5	2.9	0.8	4.5	5.7	2.5	3.0	2.4	1.9	8.7
BAL EFFECT	2.9	-4.5	1.2	-0.9	7.2	-6.6	-15.7	1.9	4.7	-4.0	4.9	-5.1	0.8	1.7	-18.8	2.1	-5.5	-0.9	2.1	10.7	-33.4
STD ERROR	1.9	3.2	1.8	2.3	1.4	1.2	5.5	4.9	2.8	3.9	2.3	2.7	2.9	0.7	5.1	4.5	2.4	3.0	2.2	2.1	8.9
EXER: U0909 NATL % 83.2 (Text for this exercise was not released)																					
UNADJ EFFECT	0.6	-11.9	6.3	-0.7	-1.3	1.2	1.7	-20.2	9.1	-19.8	3.7	4.0	-0.5	5.3	-34.3	-25.1	-8.0	-7.0	5.3	11.4	-19.9
STD ERROR	3.1	3.8	2.0	3.0	1.7	1.6	4.1	6.1	3.3	6.1	2.1	2.9	3.4	0.9	4.6	11.4	2.5	3.9	2.3	1.9	9.1
BAL EFFECT	1.7	-9.7	4.3	-0.9	-1.3	1.2	3.0	-4.9	4.8	-14.0	-1.1	4.0	1.3	4.1	-25.6	-22.5	-3.5	-7.2	3.2	7.7	-13.5
STD ERROR	2.2	3.8	1.8	2.6	1.4	1.3	4.0	5.4	3.5	5.0	2.3	3.1	2.6	0.9	5.0	9.2	2.4	3.6	2.1	1.9	6.7
EXER: U0910 NATL % 81.5 (Text for this exercise was not released)																					
UNADJ EFFECT	2.7	-9.6	-0.5	5.5	-2.1	2.0	4.4	-6.8	3.7	-2.9	-1.0	3.8	-3.3	0.5	-8.7	12.3	-0.7	2.0	1.0	2.3	-18.2
STD ERROR	3.4	4.3	2.4	2.6	1.9	1.7	3.4	6.3	4.5	5.2	4.1	2.9	2.8	0.6	4.7	3.4	2.0	3.3	3.2	2.6	10.1
BAL EFFECT	2.8	-9.8	-0.4	5.4	-2.3	2.1	5.6	-3.5	-0.1	-4.4	-1.8	3.8	0.1	0.0	-3.9	10.1	-0.2	1.5	1.7	1.0	-16.1
STD ERROR	3.3	4.8	2.6	2.5	2.0	1.8	3.8	7.2	4.6	4.5	3.9	2.8	2.8	0.6	5.0	4.5	2.4	3.1	3.1	2.8	9.9
EXER: U0911 NATL % 81.3 (Text for this exercise was not released)																					
UNADJ EFFECT	2.9	-3.1	2.4	-4.6	3.3	-2.9	-10.5	-18.0	5.7	-9.6	0.9	3.7	4.4	4.2	-26.6	-26.5	-8.8	3.9	3.4	7.3	-18.6
STD ERROR	2.5	3.1	2.5	2.8	1.9	1.7	5.6	4.9	4.4	6.6	3.3	3.2	3.3	0.8	4.8	13.4	3.3	3.9	3.5	3.4	7.5
BAL EFFECT	1.6	-0.9	2.1	-4.4	3.9	-3.5	-9.5	-3.5	2.2	-5.7	-0.9	2.6	4.1	3.4	-22.2	-19.0	-6.6	5.2	1.7	4.9	-13.1
STD ERROR	2.5	2.8	2.2	3.1	1.7	1.6	5.4	5.1	3.6	5.7	3.0	2.8	3.1	0.9	5.6	12.8	3.3	3.8	3.5	3.2	7.4
EXER: U0912 NATL % 81.4 (Text for this exercise was not released)																					
UNADJ EFFECT	-5.7	-2.0	6.4	-1.0	5.7	-4.8	7.6	-11.9	10.9	-10.4	0.9	1.8	-4.0	3.4	-15.5	-19.7	-9.2	1.3	1.6	12.7	-28.1
STD ERROR	3.2	3.4	2.2	3.5	1.9	1.7	3.0	5.3	4.1	6.7	4.3	3.1	4.0	0.8	4.2	12.1	2.9	4.1	3.6	2.5	11.5
BAL EFFECT	-5.9	-1.0	5.7	-0.6	5.8	-4.9	7.5	-2.3	6.1	-7.2	-2.8	1.8	-2.7	2.4	-10.1	-19.4	-7.1	1.7	-1.3	11.8	-23.1
STD ERROR	2.8	4.0	2.3	4.3	1.9	1.7	3.1	6.1	4.3	7.8	4.5	2.9	3.9	0.9	4.8	9.6	2.8	4.5	3.6	2.8	10.9

```
EXER: U913  NATL % 77.5   (Text for this exercise was not released)

UNADJ EFFECT        5.6  -20.5    1.5    5.3   12.2  -11.2   -0.3  -15.6   11.0    3.3   -0.4   -5.2    1.6    3.8  -27.6  -18.4   -9.6   -0.2    5.3    9.3  -26.1
STD ERROR           2.6    2.8    2.4    2.8    1.8    1.7    4.9    5.6    3.2    6.0    3.2    2.6    2.9    0.7    6.1   12.4    3.5    2.7    2.6    2.7    6.1
BAL   EFFECT        5.6  -13.8    0.3    1.9   10.7   -9.9   -0.2   -4.3    3.8    1.6   -1.6   -2.7    3.7    2.7  -19.5  -14.2   -4.2   -0.4    3.9    5.1  -22.2
STD ERROR           2.3    2.6    2.2    2.7    1.7    1.6    4.0    5.4    3.5    5.3    2.9    2.3    2.6    0.7    5.6    9.7    3.1    2.8    2.5    3.1    5.8

EXER: U914  NATL % 75.7   (Text for this exercise was not released)

UNADJ EFFECT        6.4   -9.8   -3.7    5.0    2.8   -2.7   -8.8  -16.0   11.2    6.3    7.2   -8.4   -4.5    2.9  -14.8  -29.9  -10.4   -0.9    9.3    9.3  -33.6
STD ERROR           2.8    3.8    2.8    2.9    1.6    1.5    5.9    6.6    3.9    5.4    3.0    4.2    3.2    0.8    6.6    9.4    3.3    4.6    2.6    2.5    8.2
BAL   EFFECT        6.0   -5.8   -4.8    3.8    2.6   -2.4   -5.3   -3.4    4.0    6.7    5.4   -7.0   -3.2    2.2  -10.3  -26.9   -5.8   -2.4    7.6    6.9  -34.2
STD ERROR           2.8    3.9    2.9    2.5    1.6    1.5    5.9    6.8    3.6    5.3    2.7    4.1    3.3    0.8    6.7    9.1    3.4    4.4    2.8    2.5    8.3

EXER: U915  NATL % 74.1   (Text for this exercise was not released)

UNADJ EFFECT       -5.6    2.0    1.4    3.3   12.4  -10.5    0.8    6.7    0.1  -22.0    4.1    4.1   -3.0    1.5   -4.3  -23.8   -0.7   -4.5    3.8    1.2   -3.5
STD ERROR           3.8    3.0    3.0    4.3    2.1    1.8    6.1    5.3    7.9   10.3    4.9    3.2    4.2    1.2    6.6   13.6    3.2    4.5    3.4    4.6    9.8
BAL   EFFECT       -3.4    0.9    0.2    3.8   12.2  -10.3   -1.2   11.8   -1.4  -21.3    3.2    5.0   -4.0    1.8   -5.5  -29.7    0.9   -6.7    1.3    2.9   -1.3
STD ERROR           3.4    2.9    2.6    4.2    2.1    1.7    5.9    6.4    7.0   10.5    4.4    3.4    4.2    1.1    6.1   14.1    2.8    4.2    3.2    3.7    9.2

EXER: U916  NATL % 73.0   (Text for this exercise was not released)

UNADJ EFFECT        8.8   -3.9   -5.5   -0.1    0.8   -0.8   -3.5  -11.9    9.4   -4.5    2.0    0.2   -1.3    4.2  -29.6  -13.1  -14.8    1.0    8.5   11.0  -12.5
STD ERROR           2.9    4.3    3.0    4.2    2.0    1.9    7.1    5.9    5.5    6.8    2.9    3.5    4.1    0.9    5.0    8.8    2.5    3.4    3.1    3.1    9.0
BAL   EFFECT        6.5    1.4   -5.4   -1.8    0.1   -0.1   -0.3   -1.0    3.6   -1.8   -1.9    1.7   -0.6    3.4  -24.9   -8.0  -11.7    1.1    6.8    7.7   -7.0
STD ERROR           2.5    3.9    3.0    4.0    1.9    1.8    6.5    6.0    4.8    5.0    3.0    2.8    4.0    0.9    5.4    8.3    2.5    3.2    3.2    3.1    8.7

EXER: U917  NATL % 71.8   (Text for this exercise was not released)

UNADJ EFFECT        1.7   -7.9    3.3    0.2    3.0   -2.6   -7.2  -19.0   17.9   -9.2   -0.3   -2.7   -2.0    3.9  -24.5  -20.4  -18.5    4.3    2.4   17.1  -28.9
STD ERROR           2.9    4.0    2.9    3.5    1.8    1.7    5.6    7.3    3.2    6.3    4.1    3.1    3.8    0.8    6.3   12.5    3.5    3.3    3.5    2.5    9.4
BAL   EFFECT        0.7   -2.5    2.3   -1.7    1.7   -1.6   -5.3   -5.9   10.2   -3.2   -1.9   -1.3   -1.1    2.5  -13.8  -18.0  -14.2    4.1    1.0   13.7  -23.0
STD ERROR           3.0    3.9    2.8    3.2    1.9    1.7    5.3    7.1    3.1    6.8    4.0    2.8    3.5    0.9    6.8    8.5    3.4    3.2    3.5    2.6   10.0

EXER: U918  NATL % 65.1   (Text for this exercise was not released)

UNADJ EFFECT        2.8   -7.5    1.0    1.5    9.0   -8.0    2.4   -9.8   18.1   -8.0   -2.4   -1.1   -5.4    1.3   -9.0   -3.7   -1.2   -6.8   -5.4   11.7  -13.3
STD ERROR           3.8    4.1    2.9    4.5    2.5    2.2    5.7    6.3    3.6    7.0    3.7    5.4    4.1    1.0    5.3   15.1    3.8    5.3    4.0    3.3    8.7
BAL   EFFECT        1.6   -8.5    2.3    2.2    8.7   -7.8    6.3   -5.5   11.5   -7.5   -3.8    2.5   -4.0    0.8   -3.2   -7.4    1.7   -2.1   -7.7    7.8  -11.4
STD ERROR           3.4    4.2    3.0    4.1    2.4    2.1    5.8    8.2    4.4    7.6    3.6    5.2    4.8    1.8    6.2   12.8    3.9    5.2    3.8    3.4    9.0

EXER: U919  NATL % 64.7   (Text for this exercise was not released)

UNADJ EFFECT       -1.4    1.1    3.4   -3.1   10.0   -8.9   -3.3  -15.8    9.5  -11.9   -1.0    4.8    0.9    4.1  -27.8  -11.4    2.6    2.3   -2.0    2.3  -26.8
STD ERROR           3.2    5.1    3.3    4.2    2.7    2.4    6.8    6.7    4.1    7.2    3.8    3.2    4.6    1.0    5.2   14.3    3.6    3.8    3.2    4.0    8.1
BAL   EFFECT       -2.1   -0.1    3.4   -1.3   10.5   -9.3   -4.8   -2.9    7.8   -4.9   -4.4    6.3   -2.1    4.8  -27.6   -9.7    6.4    7.1   -4.1   -2.8  -24.5
STD ERROR           2.5    5.4    3.5    4.3    2.6    2.3    7.1    6.5    5.0    6.9    4.2    3.0    4.4    1.0    5.5   15.0    3.9    4.1    3.1    4.5    8.4
```

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: U920 NATL % 64.2 (Text for this exercise was not released)																					
UNADJ EFFECT	3.5	-18.3	3.9	3.1	-8.0	7.3	-9.8	-16.9	24.6	-3.8	-2.1	0.5	-12.5	3.0	-22.0	-12.4	-13.2	-9.4	1.6	23.6	-38.7
STD ERROR	4.5	5.2	3.4	4.6	2.8	2.2	6.5	7.0	2.9	8.2	3.7	4.3	4.1	0.7	5.2	11.1	4.9	4.4	3.8	2.9	8.0
BAL EFFECT	2.7	-14.5	6.3	-2.2	-9.9	9.1	-7.3	-9.8	17.6	-2.5	-5.7	3.1	-7.2	1.0	-8.3	1.0	-9.7	-7.3	2.9	18.1	-37.7
STD ERROR	3.2	4.2	2.6	3.2	2.2	1.7	5.7	7.2	3.6	7.7	3.1	3.9	4.5	0.7	5.7	10.9	4.1	4.4	3.6	3.1	8.1
EXER: U921 NATL % 63.1 (Text for this exercise was not released)																					
UNADJ EFFECT	8.2	-3.2	-2.3	-4.2	1.5	-1.3	-1.2	0.7	11.5	16.3	-14.5	6.9	-9.1	-0.8	6.0	-10.5	-1.6	4.4	1.4	-0.8	-12.2
STD ERROR	4.1	4.2	3.1	3.9	2.9	2.5	5.9	6.1	5.6	5.6	4.6	3.5	4.4	1.0	5.3	13.0	3.4	5.0	4.5	4.6	10.1
BAL EFFECT	7.2	-4.1	0.6	-7.1	1.7	-1.4	-0.2	1.8	12.8	14.5	-15.9	6.5	-8.3	-0.5	4.2	-9.4	-0.9	4.1	2.9	-2.9	-10.6
STD ERROR	4.1	4.2	3.3	4.0	2.8	2.3	6.1	6.3	5.2	5.5	4.9	3.6	4.6	1.1	5.1	16.1	2.9	4.8	4.5	3.9	9.7
EXER: U922 NATL % 62.8 (Text for this exercise was not released)																					
UNADJ EFFECT	-2.2	-7.1	5.1	0.6	13.8	-12.9	15.7	-13.5	10.4	2.2	4.5	-10.4	-4.3	2.8	-20.1	-7.9	-12.7	-2.5	11.5	3.4	-1.2
STD ERROR	4.9	5.4	3.0	4.6	2.1	1.9	3.8	6.4	6.5	5.8	3.1	3.8	4.8	0.9	5.5	15.5	3.4	4.6	3.6	3.6	8.4
BAL EFFECT	-0.9	-0.5	2.8	-3.0	12.6	-11.8	14.3	-8.8	9.7	3.9	2.1	-9.0	-3.9	2.1	-14.8	-7.3	-7.6	-2.1	8.9	0.1	1.4
STD ERROR	4.4	4.5	2.8	4.1	2.2	1.7	4.1	5.7	6.7	5.5	3.0	3.5	4.3	0.9	5.8	14.4	3.6	4.2	3.6	3.7	7.3
EXER: U923 NATL % 56.8 (Text for this exercise was not released)																					
UNADJ EFFECT	-8.6	-2.1	3.4	8.5	18.5	-16.5	-0.7	-19.6	5.2	-6.1	-1.4	4.0	3.4	3.9	-27.6	-14.7	-4.9	-6.9	9.3	2.9	-11.8
STD ERROR	4.3	4.5	3.5	4.2	2.3	2.2	6.6	7.5	6.4	7.5	4.0	3.9	4.6	1.0	5.2	12.8	4.1	4.2	4.3	4.4	8.1
BAL EFFECT	-8.6	-2.2	4.3	7.3	18.9	-16.9	-1.4	-6.0	-3.2	-4.1	-1.7	4.9	5.6	3.2	-21.4	-16.6	-4.6	-5.1	7.3	2.7	-8.9
STD ERROR	4.3	3.8	3.4	3.6	2.3	2.1	6.5	7.6	4.7	6.9	3.8	3.9	4.1	1.0	6.1	11.3	3.5	4.1	3.4	3.6	6.9
EXER: U924 NATL % 56.3 (Text for this exercise was not released)																					
UNADJ EFFECT	4.0	-18.2	3.4	5.7	4.2	-3.8	-2.8	6.5	7.4	4.2	1.2	-9.5	-2.4	0.9	-4.9	-4.7	-7.3	-1.3	1.1	7.7	-4.6
STD ERROR	3.7	4.5	3.7	4.7	2.3	2.0	7.4	6.8	5.1	7.0	5.0	5.2	4.0	0.9	5.4	16.3	3.7	4.6	3.6	3.7	8.1
BAL EFFECT	4.0	-17.7	3.2	5.6	4.2	-3.7	2.1	9.2	0.7	3.5	-1.2	-6.1	2.2	0.9	-3.0	-10.4	-5.7	1.5	-1.3	6.4	-5.0
STD ERROR	4.1	5.3	3.8	4.5	2.1	1.8	6.8	6.7	5.0	7.5	4.6	5.2	4.1	1.0	5.2	15.7	4.0	4.4	3.6	3.5	8.1
EXER: U925 NATL % 55.8 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.1	-1.6	1.5	-0.3	10.1	-9.0	-4.7	-17.2	20.3	-17.6	-2.2	-1.3	3.6	2.9	-19.3	-8.9	-8.1	0.2	6.2	7.6	-29.8
STD ERROR	5.4	6.8	3.9	5.2	2.7	2.4	7.5	7.2	4.7	6.6	5.0	5.1	4.9	1.1	6.4	16.9	3.8	4.8	3.8	4.8	6.9
BAL EFFECT	-1.6	-1.4	1.9	0.9	9.3	-8.2	-3.2	-8.4	15.9	-12.7	-5.4	0.8	4.3	1.9	-12.9	-4.3	-5.0	5.8	4.9	2.0	-26.9
STD ERROR	4.4	7.0	4.5	5.4	2.6	2.3	7.6	7.0	5.3	7.0	5.7	5.1	5.2	1.0	5.7	16.8	4.0	4.2	3.6	4.4	7.6
EXER: U926 NATL % 52.6 (Text for this exercise was not released)																					
UNADJ EFFECT	2.1	-7.4	6.2	-5.8	8.4	-7.1	-4.8	-9.1	7.5	-0.8	3.2	-0.2	-1.5	1.8	-7.2	-16.7	-5.8	-7.3	8.7	6.7	-15.6
STD ERROR	5.4	5.0	3.7	4.6	2.6	2.2	7.5	9.5	7.4	8.3	6.5	4.5	5.2	1.4	8.1	13.4	3.3	4.7	4.1	4.6	10.3
BAL EFFECT	2.6	-7.4	6.2	-6.6	8.8	-7.4	-5.8	-2.8	5.4	-1.9	-0.9	1.2	0.2	0.6	-1.1	-12.9	-4.2	-7.0	6.0	6.3	-10.9
STD ERROR	5.6	5.2	3.6	4.7	2.5	2.2	7.0	10.4	7.6	7.9	5.9	4.3	4.8	1.5	8.4	11.7	3.3	4.6	4.3	4.3	10.0

```
EXER: U927  NATL % 50.0   (Text for this exercise was not released)

UNADJ EFFECT       3.1   -7.4   -3.0    6.4    2.8   -2.6  -12.3  -18.7   27.0   -7.7   -0.3   -1.4  -14.9     2.3  -19.1    1.7  -20.3   -0.5       0.5      23.3  -17.3
STD ERROR          4.4    3.8    3.3    3.9    2.5    2.3    5.6    6.2    3.4    5.5    3.7    3.9    3.5     0.8    5.4   11.3    3.4    5.5       4.5       3.4    7.4
BAL   EFFECT       0.8    1.0   -3.4    2.9    2.8   -2.6   -8.6   -7.9   19.2   -8.1   -2.3    0.2   -9.9     0.7   -9.5   11.5  -17.8    1.5      -0.7      19.6  -12.8
STD ERROR          2.8    3.8    2.9    4.1    2.2    2.0    5.8    6.4    3.8    5.1    3.5    3.7    3.6     0.8    5.5    9.5    3.2    5.2       4.4       3.8    8.0

EXER: U928  NATL % 49.7   (Text for this exercise was not released)

UNADJ EFFECT      -7.6   -4.4    1.9   10.4    9.6   -8.9   11.1   -5.9   12.0   -0.1    1.1   -8.9   -2.2     4.6  -25.7  -32.6  -14.2    2.2       9.8       8.5  -24.1
STD ERROR          2.9    5.8    3.1    4.8    2.6    2.4    5.7    5.4    6.6    6.2    3.3    3.4    3.5     0.7    4.4    6.0    3.1    4.4       3.7       4.1    7.7
BAL   EFFECT      -5.5    2.4   -1.0    6.6    8.3   -7.7   10.3    6.7    8.5    6.9   -2.9   -8.4   -1.8     4.4  -23.8  -34.5   -8.5    2.5       6.6       5.1  -21.4
STD ERROR          2.5    5.7    2.8    3.8    2.4    2.1    5.1    5.3    4.6    4.8    3.7    3.3    3.8     0.8    4.6    5.9    3.0    4.1       3.6       3.8    7.3

EXER: U929  NATL % 49.0   (Text for this exercise was not released)

UNADJ EFFECT      -0.4  -13.6    6.7    0.9    9.1   -8.3   -0.1  -24.7    8.8   -4.4   -0.5    3.5   -0.8     3.0  -22.5   -9.0  -17.6   -5.7       4.5      16.0   -4.0
STD ERROR          4.1    4.1    3.4    5.1    3.0    2.7    8.6    7.1    8.0    5.8    3.7    3.9    4.3     0.7    5.1   12.8    3.6    4.4       3.6       3.3    6.6
BAL   EFFECT      -1.4   -7.0    6.9   -2.7    8.0   -7.3   -0.1  -13.3    1.8   -1.7   -2.0    4.4    1.9     1.3  -11.1    2.2  -14.3   -6.2       3.4      14.0   -2.3
STD ERROR          3.8    4.3    3.0    4.4    2.7    2.5    7.3    6.7    7.6    5.8    3.8    3.7    4.3     0.7    5.3   11.1    3.8    3.8       3.3       3.3    6.3

EXER: U930  NATL % 48.9   (Text for this exercise was not released)

UNADJ EFFECT      -2.0   -7.1    0.8    7.8    9.1   -8.3   -0.7  -14.4   17.5   -5.8   -4.0    0.9   -5.4     3.3  -16.4  -17.1   -3.7   -9.1      -6.1      18.7  -17.3
STD ERROR          4.0    4.7    3.6    4.3    2.3    2.3    6.0    7.1    4.8    7.2    5.0    4.3    4.5     0.9    5.8    6.9    3.8    4.3       4.4       3.1    8.0
BAL   EFFECT      -3.7   -3.7    0.8    6.7    9.8   -9.0    0.9   -4.8   14.0   -6.3   -4.0   -0.1   -4.3     2.9  -11.2  -20.7   -1.6   -6.1      -8.1      15.9  -12.9
STD ERROR          3.6    4.0    3.1    3.9    2.1    2.0    5.6    7.2    4.8    6.6    4.3    4.1    4.3     1.0    5.4    7.9    3.8    4.0       3.7       3.1    8.8

EXER: U931  NATL % 48.7   (Text for this exercise was not released)

UNADJ EFFECT       9.3   -6.4   -4.6   -0.8    7.5   -6.6   -6.7  -10.0   16.8   -6.1    1.7   -5.2   -2.6     3.4  -21.1  -21.3  -11.6  -10.4      10.2      11.6  -18.4
STD ERROR          4.0    5.6    3.4    4.9    2.3    2.2    6.8    6.8    4.6    7.4    3.9    5.0    3.9     0.9    5.5    8.4    3.8    5.0       3.9       4.3    7.8
BAL   EFFECT       9.7   -3.1   -5.5   -2.8    6.8   -6.3   -3.3    8.1    9.1   -7.0   -0.7   -3.1   -2.3     2.9  -19.9  -13.3   -8.5  -11.5      10.1       8.9  -19.2
STD ERROR          3.5    6.4    3.3    4.2    2.1    1.9    6.7    6.8    4.3    6.6    4.0    4.9    4.1     1.1    7.0    9.5    4.0    5.0       3.5       3.9    7.4

EXER: U932  NATL % 43.4   (Text for this exercise was not released)

UNADJ EFFECT       6.1   -5.4   -3.7    2.4   11.8  -10.9  -14.4   -9.9   18.6    5.1   -3.2   -2.6   -5.4     3.2  -20.8   -8.2  -13.5   -3.5       6.4      14.2  -25.3
STD ERROR          3.1    2.8    3.1    4.0    2.2    2.0    6.3    6.0    3.9    6.5    3.8    4.0    3.5     0.9    4.6   10.5    2.8    4.5       3.7       3.2    6.1
BAL   EFFECT       2.8    0.7   -2.4   -0.9   12.1  -11.1  -10.9    7.0   14.2    5.1   -5.7   -2.8   -4.5     2.8  -19.1   -4.6  -12.6    0.9       3.6      12.8  -23.1
STD ERROR          2.8    2.6    2.8    3.8    2.1    1.9    6.4    5.8    3.8    7.2    3.4    3.7    3.1     0.9    5.5    9.2    2.8    4.2       3.6       3.2    6.9

EXER: U933  NATL % 36.1   (Text for this exercise was not released)

UNADJ EFFECT       8.2  -10.4   -2.8    2.2    6.3   -5.8  -11.7   -7.4   16.6   -3.5   -4.8    0.5   -3.7     1.3  -13.0    6.8  -10.0   -4.3       3.0      14.6  -21.1
STD ERROR          4.3    3.7    3.7    4.8    2.1    1.9    5.6    7.1    4.7    7.1    4.7    4.4    3.1     0.8    5.2    7.3    3.9    4.3       4.5       3.5    5.4
BAL   EFFECT       7.8   -7.3   -3.8    1.5    6.7   -6.1  -10.1    2.9    7.9   -4.2   -5.4    2.5    1.1     0.5   -7.2   10.3   -9.8   -2.2       2.7      13.1  -20.3
STD ERROR          3.6    4.0    3.3    4.0    2.0    1.8    5.9    6.7    4.3    6.2    4.6    4.1    3.3     0.7    4.6    8.3    4.2    4.1       4.4       3.5    6.3
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	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
EXER: 0934 NATL % 15.0 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.4	-7.4	-0.1	6.5	9.0	-8.3	-3.9	-8.9	11.5	9.2	-2.6	-3.8	-2.2	1.2	-7.4	-10.9	-4.6	-9.7	3.6	8.8	-8.7
STD ERROR	2.5	2.7	2.8	6.2	2.1	2.1	4.9	5.6	6.6	5.6	3.0	2.7	3.6	0.5	3.8	5.8	2.9	2.7	3.2	3.9	4.5
BAL EFFECT	-1.4	-2.1	1.0	2.2	8.6	-7.9	-3.4	-3.7	7.1	9.9	-1.9	-3.2	-2.1	0.6	-2.9	-10.4	-1.9	-10.5	3.3	6.4	-5.2
STD ERROR	2.3	2.4	2.3	4.8	1.8	1.8	4.6	5.0	5.1	5.9	2.6	2.5	3.2	0.5	3.7	5.9	2.6	2.7	2.9	2.7	4.3
EXER: 0935 NATL % 33.8 (Text for this exercise was not released)																					
UNADJ EFFECT	10.6	-8.5	-2.3	-2.1	11.8	-10.9	-13.5	-16.1	14.4	5.5	-0.4	3.4	-11.3	3.9	-19.3	-20.8	-11.5	-6.5	6.3	12.8	-18.3
STD ERROR	3.0	1.3	2.9	3.3	1.7	1.8	3.9	6.5	5.8	5.3	4.3	3.4	2.9	0.8	4.4	4.1	3.4	4.5	3.8	3.4	5.6
BAL EFFECT	7.5	-3.0	-2.1	-3.5	11.9	-11.0	-9.8	-1.7	10.3	4.2	-2.0	3.3	-10.5	3.2	-15.5	-17.6	-8.6	-2.2	2.4	10.7	-16.8
STD ERROR	2.7	3.6	2.5	2.8	1.6	1.7	4.0	5.5	4.8	5.5	4.1	3.4	2.7	0.8	4.1	4.9	3.0	4.2	3.7	3.1	5.8
EXER: 0936 NATL % 20.2 (Text for this exercise was not released)																					
UNADJ EFFECT	7.1	-9.3	0.4	-1.3	2.7	-2.5	-8.7	2.4	8.6	-1.1	0.5	-0.0	-5.5	2.0	-13.7	-6.6	-0.9	4.8	-3.1	4.1	-15.8
STD ERROR	3.4	3.1	2.7	3.2	2.0	1.8	3.6	6.9	4.4	5.7	3.4	3.8	2.8	0.5	3.0	5.7	2.8	5.1	3.1	4.0	3.7
BAL EFFECT	6.5	-6.9	0.4	-2.6	2.9	-2.7	-8.4	7.4	5.6	-0.0	-0.4	0.3	-5.4	2.1	-14.1	-6.9	2.5	4.3	-4.7	1.4	-11.3
STD ERROR	3.1	3.2	2.7	3.7	2.0	1.9	4.2	7.5	4.4	5.5	3.4	3.5	3.0	0.7	4.6	6.2	3.0	4.5	3.0	4.2	4.2
EXER: 0937 NATL % 29.9 (Text for this exercise was not released)																					
UNADJ EFFECT	1.2	5.6	-6.7	2.0	3.1	-2.8	-3.8	-7.0	11.4	-7.5	-4.9	4.2	-2.7	1.7	-11.4	-6.0	-5.5	-2.4	-0.6	8.4	-7.7
STD ERROR	2.9	4.0	2.3	3.9	2.5	2.3	4.7	6.2	4.3	5.3	2.9	4.0	3.3	0.6	3.2	9.7	3.8	4.5	3.0	3.8	9.1
BAL EFFECT	0.9	7.8	-6.9	0.9	2.8	-2.5	-3.7	0.4	6.9	-4.5	-3.8	4.2	-3.6	1.6	-10.8	-6.2	-3.6	-2.1	-0.6	6.3	-7.1
STD ERROR	2.9	4.6	2.6	4.0	2.5	2.3	4.8	6.6	4.4	5.6	3.0	4.1	3.3	0.8	3.7	12.1	4.0	4.8	2.9	3.8	9.6
EXER: 0938 NATL % 27.2 (Text for this exercise was not released)																					
UNADJ EFFECT	-0.6	-4.6	0.3	4.4	9.9	-9.1	-4.1	-15.7	14.3	-8.4	-0.7	-0.9	-1.5	2.8	-16.6	-9.1	-5.6	-6.4	3.7	8.8	-14.5
STD ERROR	3.2	3.3	3.3	3.8	2.3	2.1	5.1	3.8	3.9	4.2	3.6	3.9	3.9	0.8	3.7	7.9	2.9	4.2	3.5	3.2	5.6
BAL EFFECT	-2.4	-1.5	0.1	4.1	10.3	-9.5	-2.1	-7.1	12.0	-9.1	-1.8	-1.3	-0.6	2.1	-10.5	-10.8	-4.3	-3.6	1.6	6.9	-10.4
STD ERROR	3.2	3.2	3.2	3.8	2.1	1.9	5.5	4.8	4.0	5.3	3.6	3.6	3.8	0.8	4.4	8.6	3.0	3.8	3.6	3.1	6.4
EXER: 0939 NATL % 25.7 (Text for this exercise was not released)																					
UNADJ EFFECT	1.6	-4.9	-1.0	3.2	12.8	-11.7	-12.9	-10.2	14.9	-7.3	-4.2	5.7	-5.1	3.6	-20.4	-22.9	-14.6	-2.8	1.8	15.7	-14.8
STD ERROR	3.1	4.2	3.1	3.8	1.7	1.6	5.1	7.1	5.3	4.5	4.2	4.5	4.0	0.6	2.8	3.3	2.7	3.7	2.9	3.7	6.8
BAL EFFECT	0.9	-0.0	-2.4	1.8	12.5	-11.5	-13.4	5.0	4.4	-2.3	-3.4	6.7	-3.8	2.9	-15.6	-21.4	-10.3	-3.8	0.1	13.6	-12.1
STD ERROR	2.6	3.4	2.8	3.0	1.8	1.7	4.3	5.7	4.9	4.8	3.8	3.6	3.7	0.6	3.4	4.6	2.7	3.9	2.4	3.2	6.1
EXER: 0940 NATL % 33.5 (Text for this exercise was not released)																					
UNADJ EFFECT	-4.1	-4.1	0.1	7.8	10.7	-9.5	1.7	-4.7	11.5	-2.6	3.0	-12.7	1.1	0.2	-7.5	14.1	-10.4	-3.2	2.9	12.9	-20.6
STD ERROR	4.7	5.7	3.1	4.0	2.4	2.5	6.7	6.5	7.3	6.2	4.4	4.0	4.5	1.1	3.8	15.8	4.1	4.3	4.0	4.1	6.2
BAL EFFECT	-4.5	-2.4	0.2	6.8	9.9	-8.8	6.5	-0.1	3.3	-2.7	1.0	-8.8	4.7	-0.7	-0.8	13.8	-9.6	0.8	2.5	10.3	-21.2
STD ERROR	3.3	4.5	2.8	4.1	2.0	2.1	5.9	6.2	6.4	7.6	4.3	3.5	4.0	1.1	4.8	16.5	3.8	4.2	3.8	3.8	6.6

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EXER: 0941  NATL % 19.8   (Text for this exercise was not released)

UNADJ EFFECT    -0.9  -1.9  -0.1   2.9   8.6  -7.9  -9.9  -2.7  15.7  -1.7  -7.0   3.6  -6.8    1.0  -7.0  -4.5  -7.4  -4.7    4.6    7.8  -7.7
STD ERROR        3.5   3.1   3.0   4.1   2.0   1.8   3.7   6.0   3.7   5.4   3.1   3.2   3.1    0.5   4.2   8.0   2.6   3.7    3.5    3.3   4.4
BAL   EFFECT    -1.8   0.7  -0.6   2.4   8.4  -7.6 -10.5   3.2  11.8  -0.2  -6.8   3.4  -4.6    0.7  -4.7  -3.3  -6.1  -4.8    4.0    6.5  -4.7
STD ERROR        2.1   2.8   2.4   3.6   2.0   1.8   4.1   6.4   3.8   4.9   3.0   3.2   2.9    0.6   4.3   7.1   2.6   3.4    3.5    3.6   4.3

EXER: 0942  NATL % 15.5   (Text for this exercise was not released)

UNADJ EFFECT    -2.1   3.9   1.2  -4.2   1.6  -1.4  -4.4  -7.5  10.2 -10.1   6.6  -2.2  -1.1    1.8  -8.7  -9.4  -6.0  -0.2   -1.8    9.9  -8.1
STD ERROR        2.6   4.3   2.6   2.9   2.1   1.8   5.1   2.8   7.4   4.0   4.6   3.2   3.0    0.6   2.9   5.2   2.3   4.4    3.6    4.0   7.2
BAL   EFFECT    -2.2   4.9   0.1  -3.1   1.9  -1.6  -4.5  -3.1   6.6  -7.9   5.8  -1.9  -1.0    1.2  -5.6  -6.4  -4.4  -0.8   -3.4    9.3  -4.3
STD ERROR        3.1   4.5   2.6   3.0   2.1   1.8   4.8   3.1   6.4   4.1   4.8   3.2   3.5    0.7   3.8   7.0   2.2   4.4    3.5    3.7   7.7

EXER: 0943  NATL % 15.1   (Text for this exercise was not released)

UNADJ EFFECT     1.0   1.8  -4.6   2.9   7.0  -6.5  -3.0  -9.6  16.9  -1.6  -5.8  -1.0  -2.9    0.8  -2.6  -9.7  -6.0   2.3   -1.3    7.2 -10.0
STD ERROR        2.6   5.4   2.2   3.3   1.9   1.8   3.7   3.1   4.1   4.4   2.7   2.9   2.8    0.5   4.2   3.6   2.0   4.5    2.6    2.8   3.5
BAL   EFFECT    -0.2   3.7  -3.9   2.1   6.2  -5.7  -3.6  -6.2  13.4  -1.1  -4.2  -1.1  -2.8    0.5   0.8 -12.0  -3.1   1.9   -0.6    4.1  -9.6
STD ERROR        2.2   4.5   2.0   3.0   1.8   1.6   4.2   4.0   4.1   5.0   2.4   2.8   3.0    0.6   4.5   5.0   1.8   4.3    2.2    2.4   4.4

EXER: 0944  NATL % 14.0   (Text for this exercise was not released)

UNADJ EFFECT     4.0  -4.7  -3.3   4.3  -0.1   0.1   1.7  -0.0  19.6  -1.0  -3.5  -2.7  -3.7   -0.3  -1.1   9.0  -4.2   2.8   -1.9    6.0  -8.3
STD FRROR        2.6   2.1   2.0   3.2   1.6   1.5   5.0   6.3   5.3   4.0   2.7   2.8   2.1    0.7   2.9  15.3   1.9   3.4    2.3    2.6   2.9
BAL   EFFECT     3.5  -2.2  -2.9   2.0  -0.1   0.1   2.8   1.6  12.3  -2.1  -3.6  -2.1  -1.9   -0.2   0.2   5.3  -2.9   2.9   -1.6    4.2  -7.8
STD ERROR        2.1   1.9   1.9   3.5   1.4   1.3   5.2   7.8   5.1   4.2   2.7   2.6   2.0    0.8   4.0  13.3   2.0   3.5    2.4    2.4   2.9

EXER: 0945  NATL % 12.1   (Text for this exercise was not released)

UNADJ EFFECT    -0.8  -2.8  -0.5   4.0  -1.2   1.1   0.5  -8.9   5.3  -6.3  -1.4   3.0  -1.8    1.3  -8.7  -6.5  -5.2   0.1   -2.7    8.0  -3.4
STD ERROR        2.5   2.6   2.0   3.1   1.8   1.6   5.3   2.4   5.7   4.2   3.4   2.9   1.9    0.4   1.8   6.4   1.9   2.9    1.5    3.5   5.3
BAL   EFFECT    -0.8  -1.9  -0.6   3.3  -1.3   1.2   2.2  -4.9   3.8  -7.1  -2.8   4.0  -0.2    0.9  -5.5  -4.5  -4.4   1.0   -3.3    6.6  -1.0
STD ERROR        2.8   2.4   1.9   3.6   1.6   1.5   5.2   2.6   6.2   4.3   3.3   2.8   1.9    0.4   1.9   5.9   1.8   2.9    3.4    3.8   5.4

EXER: 0946  NATL % 11.5   (Text for this exercise was not released)

UNADJ EFFECT    -3.1   2.2  -1.4   3.5   0.2  -0.2  -7.3   7.6   6.0  -4.9  -1.5   2.8  -5.5    0.9  -2.9  -9.3  -5.3   5.2   -0.6    4.2  -9.7
STD ERROR        2.1   4.1   2.2   2.9   1.5   1.3   2.6   6.3   4.7   3.8   2.3   3.4   2.2    0.5   3.8   2.5   1.9   3.8    2.6    3.0   2.1
BAL   EFFECT    -3.7   2.8  -0.9   3.1   0.2  -0.1  -6.2  10.5   5.2  -1.9  -2.9   2.5  -5.0    1.1  -5.0  -8.4  -3.9   5.3   -0.4    2.7 -10.3
STD ERROR        2.2   3.6   2.1   2.7   1.5   1.3   2.7   6.2   4.3   4.2   2.3   3.0   2.4    0.6   3.8   3.9   1.8   3.6    2.6    2.8   2.8

EXER: 0947  NATL % 11.3   (Text for this exercise was not released)

UNADJ EFFECT     3.7  -6.0  -2.2   3.5   2.0  -1.9  -0.8  -0.4  16.8  -5.4  -2.4  -1.1  -5.0    0.4  -4.0   2.4  -3.2  -0.4   -0.9    3.3   8.6
STD ERROR        3.7   2.2   2.3   2.8   1.2   1.1   4.5   5.1   6.8   2.0   2.5   2.5   2.2    0.6   2.9   9.5   1.9   3.7    2.8    2.2   7.7
BAL   EFFECT     2.9  -5.6  -1.6   3.3   1.9  -1.7  -1.0  -0.7  16.0  -7.7  -1.8  -1.0  -3.8    0.2  -1.5  -0.5  -1.0  -0.9   -0.4   -0.1  11.0
STD ERROR        2.5   1.7   2.2   2.5   1.1   1.0   4.8   5.3   6.4   2.5   2.4   2.4   2.1    0.6   2.7   8.9   1.6   3.1    2.6    2.4   7.2
```

EXER: 0948 NATL % 9.2 (Text for this exercise was not released)

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-1.8	-0.1	-2.3	6.2	6.8	-5.9	-7.6	-8.8	13.7	0.6	-1.8	-3.1	-1.8	-0.3	3.7	-8.2	-2.1	2.9	-1.8	3.5	-9.2
STD ERROR	2.6	3.3	2.2	5.8	2.0	2.0	2.2	2.0	6.6	8.4	2.2	2.7	3.0	0.8	6.8	3.9	2.6	8.6	2.3	8.1	1.9
BAL EFFECT	-2.6	2.2	-1.3	8.1	5.8	-5.3	-7.8	-9.0	11.7	0.0	-0.4	-2.5	-1.6	-0.6	5.6	-3.8	-0.4	2.8	-1.1	0.9	-6.7
STD ERROR	2.3	3.1	1.8	4.2	1.5	1.4	2.1	3.4	5.0	4.5	1.9	2.5	3.0	0.8	5.8	4.8	2.2	3.8	1.9	2.7	2.0

EXER: 0949 NATL % 6.2 (Text for this exercise was not released)

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	1.1	1.5	-0.7	-1.7	1.1	-1.0	3.6	0.8	1.0	2.7	-3.5	-1.8	5.8	-0.0	0.9	-1.3	-0.8	1.9	-0.3	-0.9	2.7
STD ERROR	1.5	1.4	1.2	1.3	0.9	0.6	3.9	3.1	2.8	4.0	1.2	1.2	2.6	0.3	2.9	3.1	1.3	2.7	1.4	1.7	4.5
BAL EFFECT	1.3	0.5	-0.4	-1.6	0.9	-0.8	3.6	0.4	1.1	2.8	-3.7	-1.8	5.8	0.0	0.8	-2.0	-0.8	2.0	0.1	-1.1	3.8
STD ERROR	1.4	1.7	1.2	1.5	0.9	0.9	4.1	4.0	2.3	4.2	1.3	1.2	2.7	0.5	3.5	3.6	1.3	2.8	1.5	1.7	4.5

EXER: 0950 NATL % 57.8 (Text for this exercise was not released)

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-2.8	-7.2	1.1	7.7	0.7	-0.5	-9.0	0.9	7.5	-6.6	-5.0	6.3	-2.1	1.6	-9.0	-11.1	-10.2	-0.5	-0.2	11.1	-6.1
STD ERROR	3.5	5.2	3.3	8.8	2.5	2.3	6.9	8.2	5.9	7.3	3.8	3.7	8.1	0.7	5.9	12.8	1.6	4.8	3.2	3.1	9.6
BAL EFFECT	-2.2	-6.5	1.1	6.9	0.2	-0.2	-6.3	5.7	2.2	-5.6	-5.6	7.3	0.3	1.2	-5.0	-12.5	-7.9	-1.1	-1.1	9.9	-4.8
STD ERROR	3.5	4.9	3.4	5.6	2.5	2.3	6.9	8.9	6.3	7.1	3.9	3.8	4.1	0.8	5.9	11.7	3.7	5.0	3.4	3.1	9.5

EXER: 0951 NATL % 5.2 (Text for this exercise was not released)

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-2.8	5.8	0.1	-1.6	1.9	-1.8	-5.2	-0.1	1.1	-1.0	0.4	0.6	-0.0	0.5	-2.4	-4.2	-2.9	-3.2	5.1	0.0	0.5
STD ERROR	1.4	3.7	1.7	1.4	1.3	1.1	1.2	2.9	1.9	2.5	2.3	2.2	2.0	0.3	2.1	1.2	1.4	1.3	2.7	1.7	3.8
BAL EFFECT	-3.5	7.1	0.3	-2.0	1.7	-1.6	-4.8	1.6	2.1	2.1	-0.2	-0.4	-1.0	0.5	-3.4	-2.2	-3.2	-2.8	5.1	0.1	1.2
STD ERROR	1.4	4.1	1.7	1.6	1.3	1.1	1.6	2.4	1.8	2.5	2.2	2.1	2.3	0.3	2.0	2.0	1.5	1.2	2.3	1.6	3.5

OBJECTIVE: Possess the ability and skills needed to engage in the processes of science.

EXER: 0952 NATL % 94.2 (Text for this exercise was not released)

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-0.7	-5.4	2.4	2.4	0.9	-0.8	-9.2	-9.1	2.7	-1.5	2.0	1.2	-0.1	2.7	-17.7	-11.7	-5.0	2.1	3.5	4.6	-29.9
STD ERROR	1.5	2.0	1.2	1.3	0.8	0.8	4.0	4.8	2.1	3.3	1.3	1.4	1.3	0.5	3.8	5.9	1.8	1.6	1.2	1.0	10.1
BAL EFFECT	-0.7	-2.4	0.7	2.0	0.9	-0.8	-9.0	-0.1	-0.3	2.3	0.5	1.9	-0.6	2.2	-13.8	-10.2	-2.5	2.5	1.5	3.6	-25.9
STD ERROR	1.5	1.7	0.9	1.3	0.7	0.7	3.5	4.1	2.5	3.4	1.0	1.2	1.1	0.5	3.6	4.6	1.6	1.5	1.4	1.1	10.2

EXER: 0953 NATL % 93.4 (Text for this exercise was not released)

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-1.0	-4.5	1.8	3.8	-0.4	0.3	-6.1	-2.1	5.4	1.4	5.1	-4.5	-0.1	3.0	-15.7	-5.6	-2.1	1.5	0.1	5.2	-27.0
STD ERROR	2.1	2.4	1.6	1.7	1.1	1.0	3.4	4.3	1.5	2.6	1.4	2.8	1.7	0.9	5.5	8.4	1.9	2.1	2.4	1.2	10.5
BAL EFFECT	-1.9	-2.0	0.7	4.4	-0.2	0.2	-6.4	6.6	3.0	3.1	3.1	-5.1	-10.5	3.0	-15.7	-6.2	0.1	2.9	-2.1	3.1	-28.6
STD ERROR	2.1	2.0	1.6	2.2	1.0	0.9	3.4	5.0	1.6	3.5	1.5	2.6	1.6	1.0	5.5	7.1	1.9	2.1	2.4	1.1	10.1

EXER: 0954 NATL % 79.9 (Text for this exercise was not released)

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	1.9	-17.5	0.9	9.5	7.9	-7.2	1.6	-15.1	6.6	-2.8	-3.0	4.4	-1.6	3.2	-22.4	-20.6	-12.3	0.1	1.2	12.0	-11.6
STD ERROR	3.0	5.7	2.7	2.9	1.9	1.8	3.6	7.4	3.3	6.4	4.5	3.0	4.3	0.8	6.2	11.5	2.9	4.9	2.6	2.2	7.3
BAL EFFECT	1.4	-13.8	0.3	8.3	6.8	-5.8	3.4	-5.6	-1.5	-4.4	-3.7	6.2	2.1	2.1	-13.8	-17.8	-8.3	1.0	0.2	8.5	-10.1
STD ERROR	3.3	6.5	2.9	2.7	1.6	1.6	3.2	7.5	4.1	6.3	4.0	3.1	4.3	1.0	7.7	10.7	3.0	4.1	2.4	2.4	6.6

```
EXER: 0955  NATL % 71.8   (Text for this exercise was not released)

UNADJ EFFECT   -4.6   4.4   0.7   1.9  13.5 -12.4   5.2 -86.4   7.5  -6.3   8.9   3.4  -7.3   3.4 -20.0 -16.0  -0.4   5.0  -0.3   2.9 -26.8
STD ERROR       6.6   7.4   7.3   7.7   4.3   4.0   5.8  19.6  23.4   9.2   8.8   9.1  12.0   1.6  15.2  21.4   6.0   9.5   5.6   5.4  20.2
BAL   EFFECT   -4.6  -1.4   3.0   3.0  13.8 -12.8   6.4 -83.0  -0.8  -4.6   4.3   6.8  -8.9   2.7 -15.7 -12.2   0.6   5.6  -2.8   3.3 -22.9
STD ERROR       6.4   9.1   8.2  11.9   4.0   3.7   6.7  15.0  23.4  10.2  12.2   9.6  11.8   1.4   9.0  20.7   5.7   9.5   4.9   6.3  36.3

EXER: 0956  NATL % 56.8   (Text for this exercise was not released)

UNADJ EFFECT   -3.3 -12.8  14.2  -2.7   1.3  -0.9 -13.7 -42.4 -56.8   0.1  13.0   9.5   2.7   9.1 -41.7   4.7  -5.1 -15.0  10.4   9.2 -41.3
STD ERROR       7.0   4.9   6.2   9.6   4.0   2.9   7.6   8.1   4.3  11.5   9.1   7.2  11.8   2.4   5.9  19.1   6.4  10.1   6.5   5.9  15.2
BAL   EFFECT    0.1  -8.6   8.0  -2.8  -3.6   2.6 -13.1 -24.9  14.9   1.8   8.4  12.4  -8.6   7.1 -33.4   7.9   3.6 -14.4   1.3   9.4 -40.8
STD ERROR       7.3   6.0   6.3   9.6   4.1   2.9   7.9   9.9   8.7  11.6  10.4   6.4  10.5   2.2   7.0  15.9   7.3  10.3   6.8   5.0  11.9

EXER: 0957  NATL % 54.2   (Text for this exercise was not released)

UNADJ EFFECT    3.0 -14.8   9.9  -0.6   7.1  -5.2  -8.9 -42.0  38.8   8.7   7.7  10.9  -7.5   8.0 -37.8   7.3  -9.3  -8.1   5.9  18.7 -58.2
STD ERROR       7.3   6.4   6.9   8.9   4.5   1.1   7.8   8.3   8.3  13.6  12.6   7.1  11.9   2.4   5.9  19.2   7.1  10.5   6.9   6.4   4.7
BAL   EFFECT    5.4 -12.9   7.3  -3.1   4.4  -3.2  -6.4 -28.6  27.0  10.4   2.9  13.1 -16.0   6.6 -29.2  -2.8  -0.1  -6.8  -2.3  12.7 -45.8
STD ERROR       7.4   7.0   6.9  10.1   4.5   3.3   8.2  10.8   7.4  13.4  12.1   6.3  11.2   2.3   7.2  13.4   7.3  10.1   6.3   5.8  11.3

EXER: 0958  NATL % 50.9   (Text for this exercise was not released)

UNADJ EFFECT   -0.6 -10.0   1.0   7.1   5.6  -5.1 -13.1 -11.4  22.5   5.5  -7.4   4.7 -13.5   3.6 -26.9 -13.4 -15.2 -13.9  -2.1  29.7 -31.2
STD ERROR       3.5   4.7   3.1   4.6   2.0   2.0   4.5   6.1   4.1   5.9   3.6   3.8   4.0   0.9   5.1  11.5   3.7   5.5   4.1   3.0   7.5
BAL   EFFECT   -2.6   0.2   3.8  -2.0   4.8  -4.4 -12.5   4.1  11.5  10.1  -7.6   5.7 -11.5   2.3 -18.0  -2.3 -12.1 -13.3  -1.4  25.4 -27.6
STD ERROR       2.9   4.3   2.9   3.6   1.8   1.7   4.6   6.4   5.5   6.0   3.3   2.9   4.0   0.9   6.0  11.5   4.3   5.6   4.1   3.9   6.9

EXER: 0959  NATL % 42.9   (Text for this exercise was not released)

UNADJ EFFECT   -3.7  -2.3   2.5   3.3   1.7  -1.6  -9.0 -15.2   6.1 -10.1   3.8   1.7  -0.5   4.3 -22.9 -20.2  -7.1  -7.1   0.2  13.0  -8.9
STD ERROR       4.8   3.5   3.4   5.5   2.8   2.6   6.1   7.8   8.5   7.1   3.7   4.0   4.1   1.0   5.2  10.6   3.2   4.5   4.3   3.1   7.5
BAL   EFFECT   -5.1  -0.1   1.4   4.3   2.1  -2.0  -8.4  -0.5   2.5  -7.4   2.5   0.6  -0.5   3.9 -19.8 -20.4  -4.4  -6.6  -1.3  10.8  -5.6
STD ERROR       4.8   3.5   3.4   4.8   2.7   2.5   6.8   8.7   7.7   7.3   3.8   3.8   3.9   0.9   5.4  11.0   3.3   4.5   4.1   3.0   7.7

EXER: 0960  NATL % 29.8   (Text for this exercise was not released)

UNADJ EFFECT   -5.0 -12.2  18.7  -5.4   6.9  -6.4  -8.5 -27.0  28.8  -0.8   7.8   6.8  -9.0   3.1 -17.8 -19.2   0.3 -14.8   1.6   5.7   2.6
STD ERROR       6.1   6.3   6.6   5.9   2.8   3.0   5.0   4.9  46.1   5.8   8.8   7.3   9.6   1.7   7.6   8.9   5.4   6.8   5.9   5.9  20.9
BAL   EFFECT    0.1 -14.2  15.7 -12.1   9.4  -8.7 -11.7 -23.2  25.1   1.6  -3.8  18.3 -10.2   3.3 -20.0 -11.7   9.2 -18.9  -6.9   5.9   5.5
STD ERROR       5.8   8.3   7.8   8.6   1.1   2.8   5.5   8.6  41.2   7.8   9.1   7.5  10.1   1.8  10.8  12.7   5.3   5.8   6.5   6.1  21.2

EXER: 0961  NATL % 23.6   (Text for this exercise was not released)

UNADJ EFFECT   -8.1  -4.4   4.7   7.5  11.8 -10.9  -9.0 -23.6  15.5  -8.3   8.8   6.4  -2.8   3.1 -18.3 -12.4 -11.7 -18.1   9.5  12.7   6.0
STD ERROR       6.1   6.8   5.8   7.1   3.9   4.3   5.4   4.5  30.5   7.3   8.6   6.3  10.5   1.4   5.4  13.0   4.7   4.6   6.5   5.4  19.4
BAL   EFFECT   -3.3  -3.0   2.9   2.6  12.7 -11.7  -5.1 -22.1   9.4  -2.8  -0.8  10.6  -2.0   2.9 -16.4 -16.4  -8.2 -19.4   5.2  12.9  11.2
STD ERROR       6.0   9.2   5.2  10.8   4.5   4.4  12.3  10.0  32.6  10.2  10.2   6.0   9.2   1.4   7.8  18.3   4.0   5.7   6.2   6.0  29.9
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EXER: 0962 NATL % 22.2 (Text for this exercise was not released)

	REGION				SEX		SIZE AND TYPE OF COMMUNITY							COLOR			HIGH SCHOOL EDUCATION				
	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-3.6	-8.4	11.6	-4.8	10.0	-7.3	-16.9	-22.2	52.7	28.8	11.8	-12.8	-0.5	3.4	-20.3	31.9	-7.6	-19.0	5.9	17.1	-22.2
STD ERROR	5.1	5.9	5.7	5.5	3.9	2.8	4.5	3.8	11.8	14.3	8.1	5.7	11.3	1.3	3.8	20.7	5.4	3.6	7.3	6.5	3.8
BAL EFFECT	-4.8	-4.8	10.2	-6.3	6.1	-4.5	-14.6	-16.1	41.2	25.3	10.5	-9.7	-4.2	1.9	-12.1	22.9	-1.1	-9.3	-2.8	13.2	-13.0
STD ERROR	4.8	5.9	5.0	5.2	3.7	2.8	4.8	5.5	16.6	14.3	7.1	5.2	10.5	1.4	6.0	10.1	4.9	3.5	5.6	5.0	16.4

EXER: 0963 NATL % 20.1 (Text for this exercise was not released)

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	-1.8	-17.1	7.9	4.3	0.9	-0.9	3.6	3.1	-0.6	4.6	9.6	-6.8	-13.6	0.0	-6.3	42.2	-6.0	-8.0	13.6	-0.8	-10.5
STD ERROR	5.0	3.8	5.7	6.5	3.8	3.5	6.1	11.5	16.4	7.5	8.4	6.4	4.5	1.1	5.3	21.5	4.6	7.2	7.9	4.6	7.8
BAL EFFECT	-3.9	-13.8	6.0	7.3	0.2	-0.2	10.0	-3.2	-11.7	4.3	10.0	-7.7	-16.7	-1.2	1.8	39.7	-5.6	-2.2	12.1	-2.1	-15.3
STD ERROR	5.3	4.1	5.4	6.7	4.1	3.6	6.2	17.0	18.2	8.1	7.5	6.4	5.3	1.1	6.9	21.1	4.9	7.5	8.2	5.4	11.3

EXER: 0964 NATL % 18.1 (Text for this exercise was not released)

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	1.7	-1.7	0.9	-2.5	4.9	-3.6	-12.0	-18.1	28.8	11.8	10.4	-2.5	-0.1	4.2	-16.2	-18.1	-5.6	-10.8	10.2	4.9	-18.1
STD ERROR	5.0	5.9	5.4	6.9	3.7	2.7	4.3	1.7	20.3	11.2	9.3	6.3	10.8	1.1	3.8	3.7	4.9	4.9	6.6	6.2	3.7
BAL EFFECT	3.1	0.1	-2.0	-1.8	1.1	-0.8	-11.2	-9.9	23.1	15.6	5.5	-0.9	-5.2	3.9	-13.9	-11.5	0.2	-7.3	3.8	3.0	-14.4
STD ERROR	5.5	7.0	5.2	6.7	4.3	3.2	5.3	4.5	17.6	10.8	10.1	6.4	10.9	1.7	6.4	11.5	4.9	4.9	5.8	5.9	7.1

OBJECTIVE: Understand the investigative nature of science.

EXER: 0965 NATL % 56.5 (Text for this exercise was not released)

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	2.2	-17.4	2.0	7.2	7.3	-6.7	-7.6	-8.5	11.0	6.3	-0.6	0.3	-8.7	3.8	-26.3	-26.3	-15.1	-5.6	-2.6	20.5	-8.8
STD ERROR	3.3	4.5	3.7	4.3	2.4	2.5	7.1	8.0	5.3	6.7	3.5	3.9	5.0	0.8	4.6	9.8	3.9	5.1	4.0	2.6	6.7
BAL EFFECT	0.3	-8.6	2.5	2.5	6.5	-6.0	-5.5	6.1	1.2	8.1	-0.8	0.7	-5.9	2.9	-19.3	-22.4	-11.0	-5.6	-4.2	17.8	-4.6
STD ERROR	3.2	4.4	3.4	4.0	2.2	2.3	6.3	7.5	4.9	6.2	3.8	3.6	5.2	0.8	5.1	8.8	3.9	4.7	4.1	2.9	6.5

EXER: 0966 NATL % 31.8 (Text for this exercise was not released)

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	4.1	-7.3	-5.1	8.2	11.3	-10.4	-13.7	-4.5	13.0	-3.6	6.9	-7.2	-6.0	1.4	-3.8	-25.6	-10.5	-1.9	5.1	11.2	-17.7
STD ERROR	3.2	3.4	3.0	4.4	1.8	1.8	5.7	8.1	4.5	7.3	4.0	3.4	3.8	0.9	6.9	4.3	3.1	5.7	3.9	4.2	6.1
BAL EFFECT	3.1	-3.8	-5.9	7.8	11.3	-10.4	-10.7	2.1	5.1	-5.8	6.4	-4.2	-4.5	0.7	1.0	-21.8	-7.4	-3.2	3.8	10.1	-18.9
STD ERROR	2.9	3.9	2.9	3.8	1.6	1.6	5.7	7.2	4.7	6.4	3.4	3.1	3.7	0.9	7.1	5.0	3.2	5.6	3.4	3.8	6.9

EXER: 0967 NATL % 12.1 (Text for this exercise was not released)

	N.EAST	S.EAST	CENTRAL	WEST	MALE	FEMALE	EXTREME RURAL	INNER CITY	EXTREME AFF SUB	INNER FRINGE	URBAN FRINGE	MEDIUM CITY	SMALL CITY	NON BLACK	BLACK	OTHER	NONE	SOME	GRADUATED	POST	UNKNOWN
UNADJ EFFECT	7.5	-3.9	-2.0	-3.2	5.6	-5.2	-4.6	4.1	11.8	5.7	-4.2	0.5	-7.1	-0.2	1.4	0.8	-3.8	-6.2	-0.6	10.4	-4.3
STD ERROR	3.3	2.4	2.3	2.7	2.0	1.8	4.3	5.2	5.1	6.4	2.2	3.1	2.1	0.6	3.8	7.4	2.1	2.7	2.7	3.9	4.4
BAL EFFECT	6.2	-2.0	-0.3	-5.4	5.7	-5.3	-3.3	4.8	8.1	5.1	-3.0	-0.2	-5.6	-0.4	2.1	2.2	-2.4	-7.1	-0.8	9.5	-4.8
STD ERROR	2.9	2.5	1.9	2.4	1.9	1.7	3.7	5.9	4.3	6.3	2.3	2.6	2.2	0.6	4.2	7.5	2.1	3.1	2.6	3.7	3.9

OBJECTIVE: Have attitudes about and appreciation of scientists, science, and the consequences of science that stem from adequate understandings.

EXER: U968 NATL % 85.0 (Text for this exercise was not released)

UNADJ EFFECT	-7.1	-3.3	5.3	3.5	-7.8	8.9	7.1	-13.1	2.5	3.0	-1.6	0.9	0.3	0.3	8.9	-20.8	-0.2	-3.0	-5.1	5.8	6.6
STD ERROR	3.5	5.3	3.7	5.5	2.3	2.1	6.6	6.8	6.0	5.7	4.4	5.5	4.1	0.7	5.3	10.5	2.9	4.3	3.9	4.2	10.7
BAL EFFECT	-8.7	-5.8	6.6	5.5	-7.9	7.4	9.8	-17.7	2.6	4.0	-1.4	0.8	0.5	-0.5	11.2	-21.3	0.7	-4.0	-4.1	4.5	8.1
STD ERROR	3.4	5.6	3.7	5.7	2.2	2.1	6.7	6.8	5.8	5.9	4.4	5.9	4.2	0.8	5.1	11.4	2.9	4.4	3.6	4.0	9.6

EXER: U969 NATL % 25.7 (Text for this exercise was not released)

UNADJ EFFECT	0.7	-1.9	-3.7	4.8	9.1	-8.1	-17.6	-2.5	12.9	-1.0	-3.3	3.5	-3.3	0.8	-10.6	10.1	-8.6	-2.7	0.0	12.8	-15.2
STD ERROR	4.1	5.2	3.3	4.7	2.6	2.4	3.2	5.7	6.4	5.2	3.7	5.8	3.3	0.9	3.9	16.2	3.7	3.7	1.9	4.0	5.6
BAL EFFECT	-0.3	-0.8	-2.1	3.3	8.6	-7.6	-14.2	5.3	4.5	0.2	-5.1	6.6	-0.7	0.6	-9.3	10.7	-7.0	0.1	-0.0	9.6	-17.8
STD ERROR	4.2	4.9	3.3	4.3	2.4	2.1	3.7	4.9	5.7	5.7	3.5	5.7	3.8	0.9	4.9	12.1	3.7	3.7	3.9	3.7	5.1

EXER: U970 NATL % 14.0 (Text for this exercise was not released)

UNADJ EFFECT	1.9	-3.5	-3.4	5.4	5.8	-5.3	-8.6	-7.1	9.9	-0.9	5.6	-7.6	-2.1	0.7	-4.7	-4.8	-5.1	-0.4	6.0	1.9	-11.2
STD ERROR	2.8	3.5	2.6	5.9	2.2	2.1	3.2	3.3	4.6	5.3	3.9	2.8	3.5	0.6	4.0	5.0	2.3	1.9	4.1	2.8	2.8
BAL EFFECT	1.8	-0.9	-3.6	3.7	5.4	-5.0	-7.7	-4.3	6.9	-2.5	5.3	-6.1	-1.7	0.1	-0.6	-1.7	-2.7	-1.0	4.9	0.7	-11.8
STD ERROR	2.4	4.0	2.7	5.4	2.0	2.0	3.4	4.1	4.7	5.6	3.3	2.4	3.6	0.6	4.5	6.2	1.9	3.7	3.3	2.7	3.4